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ABSTRACT

This volume consists of report summaries, literature reviews, and document annotations on the subject of education in Asia and the Pacific. The reviewed literature includes the following: "Reorientation and Reform of Secondary Education in the Asian and Pacific Region: A Status Report," edited by R.S. Adams; Unesco's "Primary Education on the Threshold of the 21st Century"; "Secondary Education in the World Today," by Z.A. Malkova and B.L. Vulfson; "Distance Education in Asia and the Pacific," proceedings of the Asian Development Bank Seminar; "Public and Private Sectors in Asian Higher Education Systems," Hiroshima University; "Pacific Perspectives on Non-Formal Education," edited by Michael Crossley and others; "Achievements of the United Nations Decade for Women in Asia and the Pacific," United Nations; "Realities, Reflections, and Reform: A Study of State Universities and Colleges in the Philippines," by Higino A. Ables and others; "Education and Employment: the Case Study of Thailand," by Tunsiri Vichai; Trevor Williams' "Participation in (Australian) Education"; a government report on Japanese educational reform; a pilot study of computer education in Penang, Malaysia; an Australian government report on policy for girls' education; and a Japanese national research report on new ideas with computers in mathematics education. The annotation section includes descriptions of about 33 documents arranged by nations, dealing with such topics as occupational training, teacher education, rural housing, and the economic role of women in Asian and Pacific countries. The book also includes addresses of sources for the materials described. (TES)

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Reviews, Reports and Notes

UNESCO PRINCIPAL REGIONAL OFFICE
FOR ASIA AND THE PACIFIC
BANGKOK

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This publication contains special reports on educational developments, together with reviews and reports of recent documents selected from the collection of the Unesco Principal Regional Office for Asia and the Pacific. We invite officials of Member States in the region, members of international organizations and all interested readers to send recent publications for possible review or mention in future issues, as well as special reports on new education policies or major programmes.

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CONTENTS

Reports

Reform of secondary education in the Asia and Pacific region 1

The future of primary education 5

Secondary education in the world today 12

Reviews of recent publications

Distance education in Asia and the Pacific 27

Asia higher education – public and private sectors 38

Non-formal education in the Pacific region 41

Women's role in Asia and the Pacific 49

Higher education in the Philippines 52

Education and work: Thailand case study 56

Participation in education – Australia 61

Educational reform in Japan 67

Malaysia: a case study of computer education 76

Girls' education in Australia 82

Computerized mathematics education 89

Annotations of Asia/Pacific documents 97

Sources and addresses of documents reviewed in this issue . . 119

Recent publications
(Supplement to List of Publications, 1988-1989) 120

REPORTS

7

REFORM OF SECONDARY EDUCATION IN THE ASIA AND PACIFIC REGION

Adams, R.S., ed. ***Reorientation and reform of secondary education in the Asian and Pacific Region: a status report,*** prepared for Unesco PROAP following the Regional Study Group Meeting on Reorientation and Reform of Secondary Education, Bangkok, 9-17 May 1988. Trial ed. Bangkok, Unesco PROAP, 1988. 98 p.

This publication is one of the many outcomes of the Asia and Pacific Programme of Educational Innovation for Development (APEID). Over the years, the APEID has been modified and refined. Its initial emphasis on the dissemination of information on innovations has been replaced by a new focus on specific educational problem areas such as the restructuring of secondary education in Asia and the Pacific.

The topic of the reorientation and reform of secondary education has acquired great significance in the region. It reflects the concern for the state of secondary education itself and the way in which secondary education affects young people. Because secondary education for most people represents the transitional stage between primary education and life beyond school, its strategic importance is obvious. But it is also a crucial transition point for young people going on to higher education. Consequently, its assessment has been from two opposite perspectives: the extent to which secondary education is a good preparation for a vocation vis-a-vis the extent to which it prepares for university education. Since both the need for a well-trained labour force and the need for well-educated leaders are crucial to national economic development, the dilemma in secondary education has been which form of educational preparation is worth most.

The first chapter in the publication gives a general overview of secondary education in the region. It contains information from a systematic survey undertaken by the National Institute for Educational Research in Japan in 1988. Two other sources include a draft report of the APEID Study Group Meeting held in May, 1988 and a series of survey and country reports on reform and reorientation of secondary education commissioned by ACEID, Unesco PROAP.

The publication notes that two studies of secondary education in the region have recently been completed. Between 1986 and 1988, the National Institute for Educational Research in Japan, in collaboration with the Asian Centre for Educational Innovation for Development (ACEID), undertook a project designed particularly to gain information on five 'high priority' areas of secondary education – (i) organization, (ii) enrolment, (iii) curricula, (iv) teacher preparation, and (v) assessment. In this undertaking 16 countries were involved – Australia, China, India, Indonesia, Japan, Malaysia, Nepal, New Zealand, Pakistan, Papua New Guinea, the Philippines, the Republic of Korea, Singapore, Sri Lanka, Thailand and Western Samoa.

More recently ACEID also commissioned a survey of secondary education in selected countries of the region, with the main focus on change and innovation. Survey papers were contributed by Afghanistan, Australia, Bangladesh, the People's Republic of China, India, Indonesia, Japan, Malaysia, Nepal, New Zealand, the Philippines, the Republic of Korea, Samoa, Sri Lanka, Viet Nam, Thailand and Turkey. The survey covered (i) major issues and problems, (ii) significant reforms and innovations – their genesis, characteristics, implementation, recent and future implications, (iii) a background of secondary education and related national policies, and (iv) future proposals. Subsequently, the countries participated in an APEID study group meeting in Bangkok, where some elaboration and clarification took place.

These two undertakings comprise the main database for the general overview that is provided in Chapter One. The overview is organized around six themes which address the following general questions: (i) What provision is made for secondary education? (ii) How does the system operate? (iii) Who gets access to secondary education? (iv) Who provides it? (v) Where is it provided? and (vi) How is secondary education valued?

In Chapter One, it is observed that educational systems as they have developed in virtually all countries have tended to take on a relatively similar shape, adopt similar practices and follow similar evolutionary patterns. Most have done so as a logical/pragmatic response to existing needs and circumstances and, accordingly, reflect conventional, time-bound, wisdom.

Chapter Two is mostly a review of the APEID survey on secondary education (1987-1988), which highlights innovations in education that are occurring in 19 countries in the region. The review discusses two broad categories of innovations, namely: those concerned with qualitative aspects of education and those concerned with organizational aspects. Within each type are to be found sub-categories and within sub-categories unique types of reforms or innovations.

Chapter Three deals with issues and problems of secondary education. The 14 countries that responded to the invitation to indicate issues and problems currently influencing their educational development produced some 96 items. By combining similar items the total was reduced to 33, which were regrouped into five areas; access, curriculum, resources, teachers and organization. Some other items, which are represented as a series of dichotomies are considered as a sixth area.

The issues and problems identified are compared with a list of national and educational values derived from specific aims or objectives reported in the survey. Even a cursory comparison of the issues and problems with a list of national and educational values reveals that the issues and problems identified are more specific and routine rather than expansive statements of values. An interesting finding is that national and educational values tend to cover the entire educational system whereas issues and problems tend to refer to matters of immediate concern and, perhaps more relevantly, to that small sector of the system where an even smaller proportion of available funds may be placed.

In Chapter Four seven specific areas in the reform and re-orientation of secondary education are singled out on the basis of discussions of the study group meeting held in 1988: (i) equality of access, treatment and delivery, (ii) relevant curricula, (iii) balanced curricula, (iv) diversified curricula, (v) vocationalization, (vi) the modernization of teaching and learning, (vii) effectiveness in conjunction with standards and excellence, and (viii) efficiency of administration and management.

In the discussions of the study group meeting, however, no attempt was made to describe the various measures of reform being undertaken in each country as they are regarded as too specific to their context and, accordingly, beyond adequate treatment. Rather, each aspect was discussed as an issue. This chapter's organization is based on a relatively straight-forward **'input-output model'.**

Chapter Five, the concluding chapter, presents future directions and patterns emerging in the region's reforms of secondary education that might indicate future priorities. Because of the wide diversity in the region such a task appears to be difficult as no one generalization will hold good for all countries. But changes, quoting Emile Blanc's suggestion at the 40th Unesco International Conference on Education, should be along the following lines:

- adapting structures more closely related to intentions;
- returning to less ambitious purposes, goals and objectives;
- adopting more realistic curricula;
- diversifying curricula and teaching;
- intensifying guidance (school, academic and vocational);
- designing courses for young people in keeping with their aptitudes and according to national socio-economic needs;
- improving the status of the teaching profession.

THE FUTURE OF PRIMARY EDUCATION

Unesco. International Bureau of Education. *"Primary education on the threshold of the twenty-first century"*, in International Yearbook of Education, Vol. 38, 1986. 276 p.

The 1986 special issue of the International Yearbook of Education on "**Primary Education on the Threshold of the Twenty-First Century**" was prepared on the occasion of the thirty-ninth session of the International Conference on Education, organized by the International Bureau of Education, Geneva. It is an analysis based mainly on official documentation related to educational developments in the Member States during the period 1982-1983.

The Yearbook provides a wide range of analyses of various aspects of primary education and its relation to the overall development process and policies with regard to primary education, its organization and administration, its curricula, the training of its teachers, the milestones of its democratization, and future developments.

The responses from the Member States of Unesco were collected, using the following 'conceptual starting point'.

> ". . . it may be useful to indicate that, for the purpose of this inquiry only, the term **'primary education'** is understood as a basic stage of education which is either a self-contained phase (of various length in various countries) or which forms a part of a longer cycle of general education. Primary education may lead to other kinds of post-primary education, whether secondary or not, or to the world of work in some cases. It does not necessarily correspond or equate to the period of compulsory schooling."

The presentation of materials and synthesis of country experiences is preceded by historical comments on the importance of primary education. The author notes that in the last third of the last century, the majority of European countries still had large numbers of children who did not attend school. In the U.K. it was the Foster

Elementary Education Act of 1870 which marked the beginning of a movement of generalized expansion and the Basic Education code of 1872 which stressed that "**in the future there shall be no community with an illiterate family, nor any family having an illiterate member**".

The book covers analyses of policy and administration, organization, curricula and professional staff. Towards the end of the book, the author dwells on various issues related to the democratization of primary education and the obstacles confronting it and highlights the present and future scenarios of primary education.

On the subject of **'policy and administration of primary education'**, detailed analyses are included of various regions, namely Africa, Asia, the Arab States, Latin America and the Caribbean, and Europe and North America. These focus on legislation, financial allocations; administration of primary education at various levels – centralized, regionalized, mixed administrative set-up, and those in the process of change – cover information on **'foreign aid'**; planning; evaluation and research mechanisms and methods operating in the countries, and institutions involved with primary education programmes.

The subject, **'organization of primary education'**, deals with institutional structures; duration of schooling; the school year, week and day; internal structures in relation to pre-school and secondary school; entrance and leaving ages; types of institutions – public and private, graded and non-graded schools, co-educational and separate schools, religious schools, language schools – time schedules; school size; special educational schools; unconventional institutions and programmes; various forms of primary school, and roles and responsibilities of the local communities.

Discussions of the curricula cover materials relating to the meaning and application of objectives of primary education; contents of education; methods; learning techniques and resources, and the evaluation of learning outcomes. These discussions are presented separately for Africa, Latin America and the Caribbean, Asia and the Pacific, the Arab States, Western Europe and North America, and Eastern Europe. A comparative analysis is also given of important aspects of curricula across various regions. With regard to professional staff in primary education, the review covers initial training, including training models, directed and open training, experiments in school-based training and an emphasis on 'lifelong training' of professional staff.

At one point there is a significant statement: "the problem of democratization of primary education can no longer be interpreted in quantitative terms only, since the purpose of democratization is to secure the best opportunities for everyone with due attention to deprived groups". The author explains that universalization of primary education cannot be achieved by weakening the quality of the education provided to the children. "A primary school that fails to achieve certain minimum and useful objectives, that fails to meet the people's needs, that fails to interest either the children or their parents, will inevitably end up by losing in one way or the other".

The book also deals at length with the influence of demographic factors on the democratization of primary education. It is recorded that, only shortly before the end of the nineteenth century, the world had reached a population of 1 billion inhabitants. By the end of the twentieth century, this figure is expected to have been multiplied by six, but it should also be borne in mind that a population of 2 billion was already reached by 1930, in a little over fifty years, while 3 billion was reached around 1960. On the basis of middle-term projections made by the United Nations, it is stated that by the end of this century Africa will have doubled the population it had in 1975, and that by the end of the next century it will have a population five times greater than that of Europe (excluding the USSR) in 1975. By the end of this century, Southern Asia is expected to add almost 1 billion inhabitants to the 1.2 billion it had in 1975, while China might manage to reduce its present growth and even stabilize it towards the year 2025 (in spite of which it would then still have 1.4 billion inhabitants, i.e., 64 per cent more than what it had in 1975). As for Latin America, by the year 2000, its population is expected to be double that of North America. The author further adds that the demographic distribution of the next few decades will also depend to a large extent on the migratory movements which are constantly occuring and will probably increase in years to come unless the existing contrast between city and country is successfully overcome. There is also a great population flow towards the industrialized countries, with a constant migratory movement, especially since the Second World War, from south to north and from east to west.

In light of these projections, it is estimated that by the year 2000, six out of every seven children between the ages of 6 and 11 will be from developing countries. The enormous educational burden resulting from this overall demographic growth will also largely fall on the countries which are least able to support it, while at the same time the rate of child dependency in countries with scanty resources is much higher than in the developed countries: ". . . that is, their population of children (age 0–14) is much higher in relation to the working-age population (age 15–64) that has to support them than in the developed countries. It is estimated that by the year 2000, the developing countries will account for approximately 85 per cent of all children and youth in this age group . . . meaning that these countries will need to increase their primary-school enrolment by nearly 50 per cent in 20 years merely to maintain their current enrolment ratio. To bring about the universalization of primary education, it is likely that the developing countries will need to double the figure of their present enrolments".

The following are identified as the main problems, difficulties and obstacles to the universalization of primary education in most of the developing countries:

1. A lack of financial resources coupled with the escalating cost of education. This remains the severest handicap to development;
2. A high rate of population growth in relation to the available, limited resources;
3. Deteriorating and inadequate physical facilities for education, such as an inadequate number of school buildings, essential scholastic and other educational materials as well as housing for teachers;
4. An inadequate supply of trained teachers. To achieve universal education, the present level of staffing would necessitate more than doubling;
5. Inhibitory cultural attitudes in these countries' communities, particularly biases against the education of girls and the physically and mentally handicapped. It should be pointed out that economic constraints tend to entrench these inhibitory attitudes;

6. High drop-out rates in primary schools (almost 75 per cent of the enrolled number);
7. Unattractive terms of service for teachers.

Problems of minorities, disadvantaged population groups, rural marginalization, socio-economic marginalization, ethnic and linguistic minorities, migrant workers, school drop-outs, and grade repetition are discussed with reference to countries in various regions.

The author of **'The Present and Future of Primary Education'** is of the view that the belief which seems to be constantly gaining ground is that improvements in primary education must be based more on an uninterrupted effort than on the adoption of exceptional measures which would presuppose a break with the past. Even in the case of those countries which have undergone substantial political changes in the past few years, there seems to be a prevailing tendency to make the best possible use of the existing structural foundations and to introduce desirable modifications to them only on a gradual and evolving basis. In many countries the quality of education is expected to be at the heart of the renewal of primary education in the coming decades. A wide range of administrative, structural and curricular innovations have been adopted in various parts of the world in response to the educational needs of varied population groups and contexts. It is stressed that the question of priority in primary education is in terms of **'full development of personality', 'high civic responsibility', 'cultural maturity'**, etc., as against the modest skills of reading and understanding, of using a language to read and write to carry out simple arithmetic operations, and so on. To the question of preparing primary school pupils for an occupation, it is argued that the variety of forms which primary education can take will depend on its surroundings. The problem is not to decide whether the primary school should assume some responsibility for vocational training, but rather to ask in what circumstances and conditions it ought or ought not to do so. In this respect, it is indicated that the views of countries vary greatly and are influenced by at least two important circumstances: (a) whether the period of primary education is long or short; and (b) the degree of economic development achieved.

The book is a valuable reference source for topics of primary education, and it covers different regions of the world. It has been prepared on the basis of materials obtained directly from the countries and it contains a wealth of information and data, as well as an in-depth analysis of important aspects and issues related to primary education. The analysis is logically developed, and follows a proper sequence of topics dealing with policy and administration, organization, curricula and professional staff, especially with regard to developing countries, where universal primary education is a high priority area for which innovative measures and strategies are keenly needed to achieve the goal effectively.

The book provides an interesting history of the development of primary education in the world, the various forms in which it operates, and its emphases in different countries. The analysis of world demographic trends with particular reference to the developing countries and its influence on the quantitative and qualitative aspects of primary education is particularly useful. The presentation of international educational topics mentioned in the preceding paragraph, as also the issues and obstacles involved in the democratization of primary education, provide a valuable comparative basis for the planning, expansion and strengthening of primary education facilities, especially in the developing countries.

The reader may find the presentation of materials in some sections rather lengthy and repetitious, with frequent direct quotations of materials which are not adequately synthesized. However, the merit of the book lies in its richness of content, and its wide scope and coverage, which outweigh this minor shortcoming. The reader will in particular find the final chapter, **'The Present and Future of Primary Education'** interesting reading. The author anticipates that most probably a large number of developing countries will enter the twenty-first century without having succeeded in universalizing primary education. On the other hand the developed countries, because of their low birth rate, will continue to see a decline in the number of primary schools during the next few years. The author reckons that the tendency among many nations with centralized governments and administrations will be to move towards some more or less pronounced form of decentralization of primary education. It is also expected that there will be greater continuity between pre-school institutions and primary schools and an identification of efforts to reduce the number of school drop-outs. The quality of education will be the central concern of renewal and innovation in primary education. What in former times was considered to be **'primary education'**, i.e., four or five years of school attendance, will increasingly be regarded as not sufficient to provide all citizens with the minimum knowledge, habits and skills they need to play their proper role in their respective societies.

SECONDARY EDUCATION IN THE WORLD TODAY

Malkova, Z.A.; Vulfson, B.L. ***Secondary education in the world today,*** prepared for the International Bureau of Education (Geneva). Paris Unesco, 1988. 209 p. (International yearbook of education, vol. XXXIX-1987).

The fortieth session of the International Conference on Education, which took place in Geneva from 2 to 11 December 1986, was devoted to the concerns of **secondary education in the world today.** The subject matter of the conference was a logical sequence to the theme of the thirty-ninth International Conference on Education held in 1984, which was **primary education on the threshold of the twenty-first century.**

The documentation furnished by Member States of Unesco for the fortieth session of the International Conference on Education was reviewed and synthesized. **"Secondary Education in the World Today"** gives an overview of the following aspects of secondary education: objectives and functions, traditions and renovation, content of education and teaching, guidance and counselling, the school and the world of work, and the school teacher.

Secondary education: objectives and functions

Economic functions of secondary education. The rapid changes taking place in science and technology require highly skilled workers in the productive sector of all countries. The situation calls for countries to expand and improve secondary education in order to raise the educational level of all categories of workers systematically. Skilled workers are required to build up-to-date economies and restructure their social and economic systems.

Social and cultural functions. The authors observe that since it is at the secondary stage of education that students are beginning to develop their human qualities, their outlook on life and their sense of aesthetics, the curricula of secondary education should focus not only on the future work of students but on the development of their cultural and social values. The International Conference on Education (1986) in its Recommendation No. 75 reconfirmed that secondary education has social and cultural functions.

Recognition of the need for pupils to keep up with the rapid growth of knowledge and to learn to use it efficiently requires that secondary education also play a key role in inculcating the habit of self-education and the desire for continuous learning.

Objectives and functions as laid down in official texts. In many countries, the objectives and functions of secondary education are outlined in legislative acts and other official educational documents. The Conference stressed that qualitative changes should occur in all aspects of secondary education and that improvement should be continuous. The reforms may have national features depending upon a country's social and economic situation and needs.

Democratization as the key problem. In many countries, secondary school reforms are linked with the democratization of education, which has acquired different shades of interpretation.

Important steps have been taken by some countries to assure long-term, full-time education for their young people. Free education has been introduced in government secondary schools in many countries. Free textbooks are supplied, and free meals or boarding are provided for children of low-income families.

Secondary education systems: traditions and renovation

Quantitative data gathered from national education reports indicate that more and more young people are enrolled in secondary schools. The increase in enrolment in secondary schools is not based exclusively on demographic trends. The present day demands of economic growth, political developments and changing attitudes appear to be factors influencing quantitative growth in secondary schools.

The authors state that the increase in the number of secondary school pupils is largely due to the greater involvement of girls, promoted by economic, social and psychological factors. Women have proven capable of handling jobs in the new industries, and of earning the means to maintain a certain level of family life. Women have also displayed a growing social awareness and desire for independence and equality with men in all spheres of social life.

Management and financing. There are two types of educational management: centralized and decentralized. The objectives and the practices of each differ among social systems. In most developing countries, centralized educational management is practiced as rapid developments in education require immense material and manpower resources and state authorities have the most authority to grapple with major social and political issues.

The drawbacks experienced in decentralized educational systems are the difficulties of setting up and maintaining national educational standards. The authors point out that while centralization tends to be identified with authoritarian management and decentralization with democratic management, it has been observed that there are decentralized systems which remain authoritarian and centralized systems which are democratic.

The presence and non-existence of private schools is an important feature of a national formal education system. There are no private schools in socialist countries and in a number of other countries. The social role of private schools and their relationship with the state educational authorities differs from country to country.

In replies to the IBE questionnaire, many countries point out that a shortage of funds is the main obstacle to developing and raising the quality of secondary education. In a number of developing countries, the private sector is encouraged to set up schools in order to alleviate the states' contribution to educational financing, but despite this type of assistance, targets for quantitative and qualitative growth are not being achieved.

The structure of general secondary schools. The duration of general secondary education varies: the longest period reported by sixty-two countries is seven years, while six years is the duration in the majority of countries and four years is the shortest period. The length of education at the **primary** and **secondary** levels in each country needs to be understood in the national context.

In some countries, compulsory education coincides with the termination of primary education or the end of the first cycle of secondary education.

According to Unesco, in 164 out of 200 countries and territories, general secondary education is divided into two cycles. The first cycle represents incomplete secondary schooling and qualifies students to enter either complete secondary schools or vocational schools or to start working. The second cycle means complete schooling and qualifies the student to pursue higher education.

In Western countries various structures of secondary schools have evolved with a view towards the democratization of secondary education.

The evolution of secondary education in a number of developing countries was hindered by colonialism.

Many countries offer secondary education to adults in night schools, correspondence courses, and by radio, television, etc. Adult education in the secondary education systems enables adults who have had only primary schooling to obtain secondary schooling; raises the qualifications of workers in different types of work, and stamps out adult illiteracy. It has been observed that in countries where many young people are involved in full-time secondary education, the attendance in adult education classes is low. In many developing countries there is no state system of adult secondary education. In a number of countries certain incentives exist to encourage work with study.

Vocational training. In the past, vocational training was not included in the curricula of secondary schools of most countries. Vocational schools enrolled mainly school-leavers and drop-outs from secondary schools and were considered of low prestige. Also, standards were not high, hence, this restricted the educational prospects and social mobility of vocational school graduates. This state of affairs did not cater to the present day needs of restructuring the national economy and attaining economic and technical self-sufficiency. A number of socialist and Western countries have incorporated vocational schools in secondary education, and elements of vocational training are being introduced in general education programmes.

In developing countries, young people still join the world of work without having any appropriate training. There is a shortage of technicians, managers, skilled workers, medium skilled specialists in farming, health services and in the service industry. In many

African, Asian and Latin American countries vocational training is being recognized as a priority area for secondary education, and appropriate measures are being taken.

Despite the efforts being undertaken by many developing countries, secondary vocational training has still a long way to go in providing high standards of training which will meet the needs of national industrial production.

Content of education and teaching in secondary schools

The traditional concept of stress on theory and memory in secondary school disregards the usefulness of knowledge and its application points to the need for the modernization of the content and methods of secondary education. The authors observe, however, that the modernization of education runs into a number of problems, the acuteness of which varies from country to country. In what ways can curricula be stabilized or renovated?

Curricula and educational differentiation. An examination of the relationship of subjects in the curricula of incomplete secondary schools in the first cycle of secondary education shows a close similarity of subjects included in the curricula. In the majority of countries, most curriculum time is devoted to the humanities and social sciences, with a stress on native and foreign languages, followed by science and mathematics, aesthetics, physical training and education in work. There is a marked difference from country to country in the number of hours devoted to these subjects.

It appears that the curricula in incomplete secondary schools in most countries have a unified structure and aim at basic general education. Vocational or pre-vocational subjects are either nonexistent or offered on a small scale. The main subjects are compulsory for all pupils.

The situation in upper secondary schools is different and complex. The problem is to supply industries with workers of different trades and skills and at the same time to satisfy the individual interests and abilities of each young person.

Differentiation of education in secondary schools differs from country to country. There are countries whose general education schools have a single curriculum: the subjects are compulsory and take up most of the school time. Optional subjects are the main form of differentiation which cater to individual aptitudes and promote the specific interests of students.

Some leading educators believe profound differentiation in secondary schools is necessary for efficient training of highly skilled specialists, especially in the fields of science and mathematics, for it is at this stage that students show highest productivity. Progress in science and technology is seen to slow down if at this stage it is not given due attention. Other schools of thought claim that profound specialization narrows the outlook and interests of students and may lead to an unbalanced intellectual and emotional development. An examination of curricula in secondary schools in a number of countries shows either heavy dependence on the humanities to the exclusion of science courses or reduction to subsidiary subjects. At the same time the trend of de-emphasizing the humanities subjects so as to give more time to science and mathematics subjects is seen by some educators as narrowing the cultural level and outlook for young people.

In many countries, general subjects take up most of the time at the beginning of secondary education and then gradually decrease to give more time to vocational subjects. Training without general education brings poor results since modern trades require workers with a sound educational background.

Modernizing the content of education. In a number of countries, commissions have been set up to revise the content of secondary education. These commissions either renovate traditional subjects or introduce new courses, and determine the length of time to be given to the study of various subjects.

The mass of information being generated makes it necessary to have an idea of the basics of computerization and the use of computers in teaching and in other types of work. In secondary schools in many countries, major experiments are underway to explore the functions of computers in teaching. Secondary school students are being familiarized with basic computer operations.

Present day secondary education curricula are paying increasing attention to such global problems as environmental protection and the preservation of peace. The incorporation of environmental education into the curricula at different stages of education is a major trend in the modernization of secondary education content. Moral and aesthetic education stresses moral aspects of man's relationship with the environment, attitudes toward animals, awareness of the beauty of nature, an understanding of ecological problems and the necessity to protect the environment for the current and future development of mankind, etc. A number of such programmes in countries that have had a good start are, however, presently encountering difficulties. The cost of teaching aids has gone up and there is a shortage of financial support.

A number of countries report that a broad approach to the teaching of peace education is highly effective. All subjects are imbued with ideas of humanism, peace and respect for other peoples.

Teaching at secondary schools. An analysis of the country reports indicates a deep concern for the improvement of teaching in conformity with the advances in science, technology and in society. Many countries stress the need for high efficiency in teaching and a search for new methods of teaching. A major trend in educational policy in many countries is to constantly introduce new textbooks which meet current teaching and learning needs. Some countries also issue teacher manuals to accompany textbooks, which outline the content of subjects, show ways of organizing classes, present alternative teaching methods and teaching aids and ways to motivate students, and introduce different assignments in accordance with pupils' abilities and inclinations. Much attention is being given to students' independent work, which in most countries is homework and the search for information in a library, museum or laboratory, etc. Students, especially in their final year of secondary schooling, are required to submit a research report. Schools in many countries motivate interest in lessons through the teaching of games, debates and discussions. The International Conference on Education (1986) stressed the importance of computers in teaching, and in the renovation and improvement of secondary education.

Representatives of developing countries indicated financial difficulties in acquiring computers and software. As with textbooks and teaching aids, computers in education will require the writing of instructional materials, manuals and programmes. Computer-oriented curricula will have to be prepared, and teachers will have to be acquainted with the basics of computer programming.

Guidance and counselling in secondary schools

The role and function of guidance and counselling. The International Conference on Education (1986) re-emphasized the recommendation of the International Conference on Education (1982), stating that educational and vocational orientation and guidance should, wherever possible, be an integral part of secondary school life.

An overview of guidance and counselling services reported by Member States shows that despite differences in organization, the services perform the following functions: (1) collecting and processing key data on a student (health, home life, attitude towards studies and progress, interests, behaviour, relations in class, etc.); (2) assisting students with their studies (such as with the correct choice of subjects at school and type of further education after school); (3) assisting students with personal problems (relations with teachers and classmates, learning to live with individual character traits, etc.); and (4) helping teenagers to choose their future occupation according to their aptitudes, interests and personal qualities.

Studying the pupils. Schools collect information on each pupil from various sources and in a number of ways in order to enable teachers or counsellors to give educational, personal and vocational guidance to pupils in secondary schools. In many countries, there are medical personnel who regularly examine the students and keep records of their health.

Day to day assessments of school performance present rich material about a student's interests, diligence, powers of observation, creativity, imagination, speaking ability, accuracy and carefulness, ideals, etc.

Schools in some countries have psychologists who study the personality of a student through the use of sociometric techniques, personality tests, inventories, rating scales, checklists, etc. Highly skilled personnel are required to interpret the data acquired from such measuring instruments. The data gathered on each student are collected, summarized and kept in his or her personal file.

Educational and personal counselling. A major task of guidance and counselling services is to make sure that each student is mastering the subjects taught in school. The assessment of student progress in each country is carried out by different means and at different intervals depending upon the structure of the school year. Poor progress on the part of the student is the main concern of schools. Failure in school work causes not only large additional state expenditures, but also leaves a stigma on the student which can be damaging to his or her personality.

In replies to the IBE questionnaire, it is seen that various means are used to assist backward students in their studies. Computers are increasingly being introduced to assist students in reading, grammar and mathematics.

Guidance services in some countries stress the development of habits of independent learning or self-education. In many countries, teachers demonstrate good working habits to students, such as: proper scheduling of study time, how to identify important points in information sources and how to present information in oral and written form.

Vocational guidance. Many countries, both developed and developing, are faced with serious unemployment of their young people.

Secondary school and the world of work

In their country reports on the development of education in 1984-1986, the majority of Unesco's Member States indicated among their main priorities: consolidating the links between secondary school and the world of work; bringing general and vocational secondary schools closer together, and improving vocational and specialized training of young people.

Polytechnical education. Schools in socialist countries report having implemented the polytechnical approach for many years so as to incorporate general education, education through work, productive work, moral and ecological education, and vocational guidance into a complete system. Work education is allocated a number of hours per week in the senior grades of the lower secondary schools.

Education in work. In many countries productive work has been introduced along with general education at lower secondary schools. The students are given a choice of various forms of manual labour. Most schools have fully equipped workshops that emphasize:

(1) skills in the handling of tools, machines, measuring instruments and processes; (2) the acquisition of good working habits and the ability to plan one's work, (3) the economical use of materials and time; and (4) the maintenance and upkeep of the working place. Courses are being supplemented and updated thanks to new advances in technology. In the Asia and Pacific region, the organization of labour training in lower secondary schools is growing in importance.

Labour training in many countries is confronted with problems of inadequate resources, the lack of qualified teachers and poor links with industrial and agricultural enterprises.

Pre-vocational and vocational training. From the country reports the authors observe that the rapprochement between general and vocational education in senior secondary schools has been brought about by a number of factors: the phasing out of the distinction between manual and intellectual activities brought about by the scientific and technological revolution taking place; the enormous increase in secondary school enrolment, and; an urgent demand in developing countries for the national population to receive technical education to satisfy the world of work.

The trend of stepping up vocational training in secondary schools and the rapprochement between general and vocational education is practised in different ways, depending upon a country's level of development, the character of each education system, and national traditions. A selection of some typical situations involves: (1) Establishing pre-vocational and vocational streams within the framework of general education schools; (2) Pre-vocational training of pupils through the choice of practical disciplines; (3) Vocational specialization at the upper secondary level; (4) Co-operative networks among secondary vocational schools: the creation and its expansion; (5) Co-operative programmes which combine studies with apprenticeships in industry; and (6) Universal vocational training of young people.

To cope with problems involving the provision of materials, technical facilities and qualified personnel, the reports of some Member States indicate that central and local educational authorities are seeing to it that their national educational policy assures adequate planning and support for vocational training programmes.

The secondary school teacher

The authors point out that with a few notable exceptions, despite certain changes for the better, the shortage of teachers is still a serious problem which hinders the development of secondary education in developing countries.

Teacher training. The recommendation of the International Conference on Education (1986) noted that the improvement of secondary education requires the training of a sufficient number of teachers and other educational personnel.

The authors note that the current systems of teacher training for secondary schools are heavily influenced by the historical origins of higher educational institutions. The systems, however, differ from country to country depending upon historical traditions and educational policy. Irrespective of differences, countries agree that the main task of teacher training is to provide the school with competent teachers whose qualifications correspond to the requirement of social, scientific and technological progress.

Working conditions, social status and social responsibility. An examination of the reports of the working schedule of secondary school instructional staff shows that teachers' activities are broadly of three basic types: (1) preparing lessons and teaching; (2) involvement with students during out-of-school activities; and (3) contact with parents and the public.

The teaching load of the secondary school teacher varies from country to country depending upon the type of school and teachers' length of service. In many countries, including in urban schools in developed countries, teachers are faced with over-crowded classes and a shortage of colleagues. Too many responsibilities is also seen as a factor which reduces the quality of teachers' work. In som countries, teachers are provided with assistants who can help prepare teaching aids, supervise laboratories, check homework, maintain order during breaks between lessons, etc. In many countries, parent committees or organizations are elected at general meetings and are given an official status. Parents are involved with such activities as: the distribution of meals; organization of holidays and leisure time; assisting student clubs; control of compulsory attendance, and providing help to needy and backward students. The partnership of teachers and parents in educational endeavours has been observed by many countries to stimulate parents' interest in their children's education and allow parents and teachers to be able to confront together the multitude of problems (alcoholism, drugs, violation of the law, etc.) faced by youth today.

Low remuneration is a problem which affects the status of teachers and their effectiveness at work. In all countries, the length of service and teaching experience is taken into account when determining a teacher's salary. The position and level of professional training also determines the remuneration to be received by the teacher. The authors refer to the recommendations issued by Unesco and ILO, which state that teachers' salaries should reflect the importance to society of the teaching function.

In a number of countries, the professional, social and political activity of the teacher is highly appreciated. Special mention is made of the important role teachers play in the peace movement, in working for the ideas of kindness and humanism, and in respect for each human being in this nuclear age.

In many countries, national teachers' conferences and their recommendations have an influence on educational policy. The experience of some countries indicates that teachers' services should be enlisted to deliberate on national problems through parliamentary commissions and local elective bodies. In rural areas of developing countries, teachers are improving the lives of people through demonstrations of appropriate farming methods, providing advice to peasants and organizing literacy courses and school concerts for the local population.

In recognition of the contribution of the teaching profession to the development of humanity, a number of countries have proclaimed one day of the year Teacher Day, when activities and programmes are organized to honour teachers.

The authors conclude that the teaching profession cannot be compared with any other profession. In addition to professional knowledge and skill, the teachers' whole personality must be a good influence on the young. For this reason, the authors point out that concern for the prestige of the teacher in society should be an important component of a genuinely progressive educational policy.

REVIEWS

DISTANCE EDUCATION IN ASIA AND THE PACIFIC

Asian Development Bank. ***Distance education in Asia and the Pacific; proceedings of the Regional Seminar on Distance Education,*** Bangkok, 26 November - 3 December 1986. Manila, 1987. 2 vols.

Distance education is the most comprehensive report on distance education in Asia and the Pacific. Published in two bulky volumes (nearly 1,300 pages), it draws its contents mainly from the papers and deliberations of a seminar convened by the Asian Development Bank in co-operation with the Sukhothai Thammathirat Open University, Thailand and the Unesco Principal Regional Office for Asia and the Pacific, Bangkok. The eight-day seminar was attended by 40 participants from 17 member countries of the Bank. Eight resource papers, five country studies and thirteen country papers were circulated at the seminar.

The first volume is divided into three parts which contain the summary of proceedings, seven resource papers and the seminar recommendations. The second volume comprises five country case studies and twelve country papers.

Summary of proceedings

The main issues raised in the summary of the proceedings are those of pedagogical problems, cost, planning, competent management, what media to use, and that of recognition and excellence in standards. It is reported that most countries have deployed distance methods for a variety of educational programmes both formal and non-formal. Some institutions have been using distance methods for teacher training and a few autonomous institutions including open universities have been launched. However, with an exception or two, not many useful evaluations of their investment costs, running expenses and performance are reported to have been made. Views have been expressed that **mid-stream** evaluation would further help to establish the case for distance education in Asia.

While examining the scope for distance education the report says that with some reservations of a pedagogical nature, most subjects can be delivered through distance methods. There would be variation in the cost of engineering and science subjects. The growing perception is that distance education methods could be extended to include subjects which have a direct bearing on rural development as well as subjects related to commerce, industry and entrepreneurship.

A definition of distance education was sought, and analysis revealed that there is at least as much variation in the use and application of the distance learning mode as there are educational requirements in the region. Distance education methods have already been used for well over half a century in the region and what is needed today is to "recognize the validity of and need for organizing these methods more specifically to increase the educational base, particularly as populations in the region grow and pressure increases for more equitable access to knowledge".

Referring to non-formal education, the report states that distance education methods have been widely used to upgrade agriculturists' knowledge of farming techniques and awareness of health practices. Non-formal education for rural people has been mainly attempted through broadcast media, especially in countries with low literacy levels. The report advocates that it is important not to limit distance education facilities to formal education but to extend a well thought-out programme to non-formal instruction as well, especially in order to reach illiterates. The report further argues that "large sections of the population will still be left out of the mainstream of development because they are illiterate, and so far hardly any success has been reported in the eradication of illiteracy by distance teaching methods alone".

Arguments are made for educational support at the primary and secondary levels. At the same time it is recognized that caution is needed in preparing a programme for young school children. But the methodology for teaching this group is reported to have been developed and tested in some countries of the region. At the tertiary level the problems and emphasis are different, as they concern the relevance of courses and the recognition of degree and diplomas. Concerns have been expressed that the students of open universities or colleges may not be accorded the same recognition as those of the better, traditional universities. The questions of excellence at tertiary levels of open learning systems is urgent against the "general view that distance education is for drop-outs or people who have otherwise failed". However, a great part of the argument for open universities is the low cost of that education as against the increasing costs of conventional campus facilities.

The report notes that distance education methods have proved to be effective in providing continuing education aimed at updating knowledge and skills of those already employed. There is a growing recognition of the need to improve productivity, the national intellectual base and the quality of life and to develop human resources in order to help achieve national development goals. It is recognized that the offer to upgrade knowledge, not necessarily with a view to employment, is also a desirable function of education. The report argues that distance education can certainly help to enhance such programmes.

The report advises that the implications, financial and other, of autonomous distance education institutions for formal education have to be carefully examined before a decision can be made about the kind of organization to be established. It is mentioned that "centrally administered and funded institutions are easier and cheaper to run", while admitting that in assessing the cost-effectiveness of formal distance education programmes there are many variables and priorities which determine whether certain objectives are achieved at a lower cost through distance education. The report warns that distance education projects demand a large capital outlay and may initially not be less costly to start up than conventional universities, but they do become progressively less expensive. For this purpose an open university should be fairly large (with 50,000 – 100,000 students in Asia). Budgetary expenditures appear to be lower than in conventional universities because the open universities require appreciably fewer staff. In other respects, in the mixed mode institutions, distance education operations or units are said to be less expensive as well.

A wide range of communication technology is available to be exploited for distance education. The report suggests that the selection of communication media must be based upon effective delivery and the cost of such media. In addition, "matching the media to specific subjects and to the requirement of idiosyncrasies of the recipient is an important consideration". In view of costs and operational difficulties, some countries will not be able to use advanced educational media and so traditional media including printed material and radio will continue to be appropriate. Other countries may need to opt for higher technology out of sheer logistical and geographical considerations. The report suggests that a mix of media enriches teaching-learning experiences, but warns that capital costs of obtaining technology, the recurring costs of producing software and the cost of obsolescence are not small. "The experience of distance education institutions establishes that electronic media are not the main means of transferring knowledge . . ."

The report notes that the changes that distance education could bring about in teaching methodology are considerable. Subject matter specialists could now be drawn from other not necessarily academic, walks of life. Importance would shift to team-work between subject matter specialists, instructional designers, programme presenters and graphic specialists. The report emphasizes that the quality of the teaching material determines the success or failure of remote teaching and that "only very high-quality material will instill confidence in the student, prevent drop-outs and establish the status and reputation of distance education institutions".

It is much more important that training programmes are initiated for the multi-disciplinary staff. The report notes that there is a serious dearth of training programmes for distance education staff. Countries in the region will have to consider setting up their own training facilities which offer courses appropriate to local needs. Three kinds of staff will require training, namely: academic and technical staff; student evaluation, counselling and contact staff, and the overall management and monitoring staff.

The report suggests areas of distance education where further studies could be undertaken. Studies could be initiated in the area of secondary level distance education and in the use of distance methods to support formal primary education. Media studies in the region are not sufficient when applied to conditions and populations in Asia. The report indicates that field studies in developing countries are probably not co-ordinated enough to form a satisfactory database on the wealth of experience in communications media which some developed countries may have.

Resource papers

The topics examined in detail by the resource papers prepared by eminent scholars highlight important aspects of distance learning methods already in use in the region. The papers in fact form the core of this volume. The paper, ***Issues in Distance Education,*** underlines the need for equal educational opportunities to allow widespread participation in the development process and to examine the possibilities of distance education methods to achieve this objective. It outlines some developmental problems in education which are likely to influence educational development in the region in the coming decade and emphasizes the need to develop effective alternative strategies to achieve optimal educational development, as well as enhance the quality, relevance and efficiency of education. It raises issues related to planning, management, monitoring and cost-effectiveness of distance education and suggests the need for an analysis of the strategies of various distance education programmes so as to be able to study their cost-effectiveness and design appropriate alternative systems of distance education. The paper also draws attention to issues related to the costs of electronic media and the quality of mass education programmes.

Another paper, ***Growth and Scope of Distance Learning,*** relates some of the experiences of distance education planners, the numerous cost-effective ways in which this education can be applied, its advantages and drawbacks, and the potential of distance education to respond to new economic challenges and social needs, a task hitherto assigned to more conventional methods of imparting knowledge. Conventional institutions are now feeling the pressure of demographic and socio-economic changes, particularly in those subjects where knowledge is changing and expanding rapidly. In this context, the paper draws attention to successful ways in which industry and academia have collaborated to respond to the desire for more employment-oriented courses.

Distance Education in Asia and the Pacific Region describes several of the programmes in distance education and attempts to forecast the direction these activities could take. The paper highlights the fact that the Asia-Pacific region has the largest concentration of young people in the world. Therefore, a great deal of thought has to be given to the use of distance education for pre-secondary and secondary levels of education as well. It also stresses the need to plan distance education strategies very carefully so as to increase the base of education.

The paper, ***Application of Distance Education in Formal and Non-Formal Education,*** stresses the need for high quality educational materials if distance education is to make any impact and gain widespread acceptance among students and employers alike. It suggests that all those involved in the setting up of distance education institutions and the preparation of instructional materials must address themselves rigorously to creating high standards. Cost-effectiveness, the paper says, is attainable through excellent delivery systems. It also examines the possibilities for regional co-operation and collaboration in creating a database and system by which to avoid unnecessary duplication in the creation of course materials and other distance education efforts.

Distance education systems, particularly the large autonomous ones, have complex managerial structures which need extraordinary planning and continued monitoring. The paper, ***Planning, Management and Monitoring of Distance Education,*** examines the planning methods and managerial structures of different types of distance education systems. It emphasizes the need for slow and careful steps in preparing the organizational groundwork needed for effective distance education. It points out the weaknesses of some institutions in the region and cautions future institutions to avoid making hasty and inappropriate decisions. Distance education systems, the paper says, are not inexpensive to set up, but they must answer an urgent need, – that of educating large populations. Well-managed, they could achieve standards equivalent to the traditional educational institutions.

Hardware and software in distance education reviews some of the pedagogical capabilities of the electronic media which have been developed in advanced countries and considers those which can be modified, extended and interfaced with other compatible technologies to make distance learning more flexible and responsive to changing needs among less developed countries. The paper emphasizes the need for developing institutions to be familiar with the workings of the electronic media in preparation for the imminent technological quantum leap. The paper cautions that developing countries will find themselves disadvantaged if they choose to delay joining new global technological ventures.

Pursuing a similar theme, with special reference to satellite-based instructional technology, the paper ***Satellite Applications in Distance Education through TV and Radio*** analyses the implications, communication possibilities, and costs of satellite-based instructional technology. The paper examines some successful satellite experiments of the region and elaborates on ways by which developing countries could make use of this technology. Satellite broadcasting technology has become more flexible and can now cater to specific areas with narrow, high frequency and spot beams, while terrestrial receivers and the ground segment have become less cumbersome. The paper points out that direct broadcast satellites will in time have greater power while receiving costs will be reduced. Satellites have several applications and can be cost-effective. The paper examines and lists the options now available and details some of the technological combinations by which countries can decide what is most affordable and appropriate for their needs.

The last paper, ***Financing and Cost-Effectiveness of Distance Education,*** examines the financial implications of setting up and conducting an open university and considers how such an institution fares financially vis-a-vis a conventional university. It compares the costs and patterns of financing of various open and conventional systems, the question of financial viability through low running costs and recovery through charging of school fees, the sale of teaching materials, the offer of training facilities and numerous social benefits. It also discusses the growing need for the development of human resources and how distance education methods could be used to meet them effectively and expeditiously.

Case studies and country papers

Distance education continues to develop rapidly in the Asia-Pacific region. The range and variety of institutions and programmes is enormously wide. The second volume of the report is a treatise on this range of programmes as it presents five country case studies and twelve country papers. The case studies cover distance education systems in India, Indonesia, Pakistan, Republic of Korea and Thailand. The other papers are on Australia, Bangladesh, Bhutan, Burma, Fiji, Hong Kong, Japan, Malaysia, New Zealand, Papua New Guinea, the Philippines and Sri Lanka.

Written by experts and practitioners in distance education, the papers present a wide-angle view of the state of distance education in the region. The papers reveal that while there are great differences in the geographical, cultural, historical and economic backgrounds of the countries, what they have in common is their large and youthful populations whose demand for education and employment cannot be ignored. There is also a pressing need for skilled manpower to prepare these countries for a future in which modern technology will play a great role. The papers echo the view that "constraints in conventional education combined with an insufficient number of schools have prevented large sectors of the societies from improving their educational and employment opportunities". Distance education, the experts argue, offers to redress to some extent the inequality.

In essence the papers provide an overview of education in the concerned countries; explain the concepts and trace the development of distance methods of teaching and learning and the establishment of distance education institutions; provide a description of distance education at different levels; take a close look at some of the key institutions, and recommend actions for improvement and future development of distance education. They are forcefully persuasive in arguing for establishing distance education in its own right and in suggesting that the countries will have to use every alternative to make distance education widely available.

Some of the case studies, such as the Indian one, examine the effectiveness of correspondence courses, which are popular in India and underline the need for far greater educational opportunities than are available. The studies attempt to determine what can go wrong with open universities and what the implications are of more sophisticated and enlarged distance education programmes. Some of these questions are answered in the paper on the Allama Iqbal Open University, Pakistan and still others in the paper on Sukhothai Thammathirat Open University in Thailand. The Indonesian paper is a "frank appraisal which does not gloss over the problems of coordinating delivery systems and high technology in that country". This too, the report says, is a reality which must be examined dispassionately.

Based on these papers, the report notes some salient features of various systems. For example, Australia not only provides distance education programmes at the primary and secondary levels to scattered communities throughout its vast central expanse, but provides extensive programmes at the higher education level. Most Australian distance education units are part of conventional educational institutions. India has a national satellite system for school, higher, adult and teacher education. It has an open university at the national level and another open university in one State besides correspondence programmes in over 30 universities. The Allama Iqbal Open University in Pakistan, the first open university in the region, offers a programme which ranges from courses for child care and literacy workers in the villages to a Masters degree in modern disciplines. In Thailand, over seven hundred thousand students are enrolled in open universities. Indonesia has innovated "Instructional Management by Parents, Community and Teachers" schools which provide primary education through the use of printed self-instructional materials. There is also a recently established open university in Jakarta.

Burma has university correspondence courses as a non-formal development programme through the broadcast media. The University of the South Pacific has the Extension Services Unit which operates in distance education mode. In the Republic of Korea the Air and Correspondence High School established in 1974 now has a system of 48 high schools. The Korea Air and Correspondence University founded in 1972 enrolls 120,000 students. Papua New Guinea provides distance education through its College of External Education. Sri Lanka has made a successful experiment with its open university which offers programmes with a strong bias in favour of science, mathematics and engineering. The Universiti Sains Malaysia is among the first in the region to offer a teacher training programme via the distance mode of teaching. Bangladesh has undertaken to train a large number of teachers through distance education. In addition to these there are many other countries where similar systems are either being considered or are already being developed.

These experiences demonstrate that the cost of providing similar educational opportunities within the formal system for the large number of students enrolled in these distance education institutions would have been enormous and beyond the present means of many of the developing countries. As one resource paper comments, "distance education no longer needs to prove itself . . . The only questions remaining are how much further this education will go and in what variety it will occur". The case studies and the country papers provide deep insight into this.

Recommendations

The last section of the first volume of the report presents four pages of recommendations. The following is a summary of those recommendations, which were addressed to the governments of the participating countries and to the international and bilateral agencies.

The Asian Development Bank, Unesco and other multilateral agencies could consider providing technical assistance to determine the most appropriate mechanism for regional co-operation in distance education. There may be a need to establish a regional institution for distance education. It is suggested that the Bank conduct a feasibility study.

Distance education exists already at several levels, including elementary, secondary and higher education in the formal education sub-sector and work-oriented education and in-service training in the non-formal education sub-sector. Distance education can help diminish inequality by providing access to education and enhancing curricula. In this context, planners and implementors may investigate the potential of the role of distance education as an alternative system.

In order to enhance the quality of all aspects of distance education, the governments and international institutions may support evaluation studies and undertake research projects aimed at improving the efficiency and effectiveness of distance education.

The manner of financing distance education varies widely among the countries. It should, however, be ensured that costs to students are kept at a level that would not deter students from taking advantage of distance education. The cost-effectiveness aspect of distance education needs to be further investigated.

Studies may be undertaken to evaluate the scope for geostationary satellite technology for educational links in countries where there is a prima facie case for using satellite TV and radio links.

Governments and concerned institutions should support feasibility studies to evaluate the extent to which computer-based education has a place in distance education.

International agencies could consider promoting measures to meet the training needs of distance education personnel in developing countries.

ASIA HIGHER EDUCATION –
PUBLIC AND PRIVATE SECTORS

Hiroshima University. Research Institute for Higher Education. ***Public and private sectors in Asian higher education systems: issues and prospects.*** Hiroshima, Japan, 1987. 97 p.

The book contains proceedings of an international seminar organized by the Research Institute for Higher Education (RIHE), Hiroshima University. It was held in Hiroshima as a **round table seminar** on 28 and 29 January 1987, followed by a public colloquium in Tokyo on 31 January 1987. RIHE is a member of the Unesco consortium on **Special Research Studies in Higher Education** as part of the UNDP project on **Regional Co-operation in Higher Education for Development**, implemented by Unesco Principal Regional Office for Asia and the Pacific, Bangkok. The seminar was under the auspices of the Consortium.

The publication contains only the papers presented at the seminar. Unlike other reports on seminars and symposia, the book under review does not have either the discussion record nor the rapporteur's report. Inclusion of the latter would certainly have further enhanced the usefulness of the publication.

Nontheless, the book merits reading. It begins with a paper by American scholar Roger Geiger, who has attempted to provide a framework for the comparison of the patterns of public-private differentiation in higher education. This theoretical paper, based largely on American and European experience, is followed by country papers by well-known nationals from Japan, the Philippines, the Republic of Korea, Indonesia, Thailand, and the People's Republic of China.

Geiger's paper is interesting and useful in that it provides a framework for comparison. Though used in a very loose sense, he has tried to identify what he calls **structural – functional** types of higher education systems. While sociologists might dispute Geiger's use of the terms **structural – functional**, the three types identified by him appear to be heuristic. These are: (i) mass private and restricted public sectors; (ii) parallel public and private sectors; and (iii) comprehensive public and peripheral private sectors. According to him, private institutions are guided by different combinations of orientations toward (i) academic attainment, (ii) market place, and (iii) patronage. Geiger discusses the relative characteristics of different types of systems and establishes their policy implications. It would have been ideal if Geiger's paper had been circulated to authors of country papers well in advance of the seminar and had asked them to use his framework in the analysis of country data relative to higher education. Such an exercise would have yielded comparable data and, at the same time, tested the validity of Geiger's classificatory device.

Barring China, all the countries covered in the book have different mixes of public and private institutions of higher education. In China, as one would expect, the system is one of **unified leadership and stratified management.** Thailand's situation in regard to public-private differentiation is similar to that of the United States: only 24.7 per cent of the students are enrolled in Thai private institutions; in the United States, this percentage is 22. In other countries reported in the book the percentage of students enrolled in private institutions ranges from as high as 65 per cent (Indonesia) to 85 per cent of all students (Philippines). Had countries of the South Asian region been included in the survey, they would have provided a very different profile, for they have a preponderance of public sector institutions.

The papers raise questions regarding issues of equity vs. quality, autonomy vs. state control, funding of private institutions, and imbalances between teaching and research functions in different types of institutions. It is evident from the papers presented that the consequences of private sector dominance differ from country to country; as such, generalizations are hard to arrive at. One also gathers the impression that the two systems of higher education are likely to co-exist for years to come as the growing demand for higher education reflected by the ever increasing number of applicants cannot be met by either of them alone in any democratic polity.

The success of any seminar lies not in offering solutions to problems but in raising well-formulated issues and sharpening analytical tools. The RIHE Seminar succeeded in achieving just this. The book under review should compel researchers to test the conceptual framework and the resultant hypotheses in different country contexts so that a better understanding of the structure of higher education in Asia can emerge.

NON-FORMAL EDUCATION IN THE PACIFIC REGION

Crossley, Michael; Sukwianomb, Joseph; Weeks, Sheldon, eds. ***Pacific perspectives on non-formal education.*** Suva, Fiji, Institute of Pacific Studies of the University of the South Pacific/Waigani, University of Papua New Guinea Press, 1987. x, 247 p.

This is a compilation of 25 papers presented during the Tenth Extra-ordinary Meeting of the Faculty of Education, University of Papua New Guinea, held at Goroka, Papua New Guinea in September 1985.

The articles in this volume take a broad and critical look at non-formal education (NFE) experiences in the South Pacific. Although the title of the publication is ***Pacific Perspectives,*** most of the articles in the volume deal with NFE activities in Papua New Guinea.

Mr. Paias Wingti, the Prime Minister of Papua New Guinea, writes in the first article of the volume that the greatest challenge facing Papua New Guinea and the Pacific is the challenge of harnessing human resources so that each individual leads a useful, productive and secure life. Non-formal education has a very vital role to play in meeting this challenge. Gloomy statistics show that a great number of people drop out of the regional formal education system every year and that a great number of people have had no chance to enter into the formal education system in the first place.

The paper, ***What is Non-Formal Education? An Education Department View,*** presents the official position of the National Department of Education in Papua New Guinea. It states that in the past, the Non-formal Education Section of the Department addressed itself almost entirely to vocational training centres and adult education. The main aims and objectives of the Non-formal Education Section have not been broadened since decentralization and have therefore failed to serve a wider range of provincial non-formal education needs.

These main aims were to:

1. have an overview of the development of non-formal education in Papua New Guinea;
2. identify priority and problem areas in provincial non-formal education activities and programmes;
3. draw up implementation strategies for the priority areas identified;
4. design and co-ordinate appropriate in-service and re-orientation courses for non-formal educators;
5. contribute to the task of defining a co-ordinated policy and programme for non-formal education across all government departments.

The department affirms that in a country such as Papua New Guinea, it is impossible to adopt a universal non-formal education strategy for all provinces to follow. Instead, the prime role of non-formal education should be to encourage the development of new ideas with a view to disseminating experiences and successess to other provinces which must make their own decisions about whether the approach is right for them.

Papua New Guinea has no national literacy policy at present. The Department of Education notes that during the next five years, beginning in 1986 (with reference to the Medium-Term Development Strategy), efforts must be made to make national literacy a high priority in New Guinea (Roakeina 1984). For that to occur, a concrete effort between the national government and provincial governments has to be forthcoming.

The paper, ***Transforming Non-Formal Education,*** reports that there is consensus that NFE should not attempt to create something new but should build on what already exists. The focus must be on providing additional support and expanding what is already working with some degree of success rather than dropping programmes in order to experiment with another approach. Communication links between levels of administration are poor because the few people at the top have too many and too wide a range of responsibilities and because there is no funding for transportation and communication between the provincial officers and the community programmes they are supposed to be assisting.

Perhaps the greatest concern regarding the future development of NFE is that it has no direct voice at any level in the government system through which to address its concerns. As currently structured within the Department of Education, there is no direct representation of NFE at the secretarial staff meetings where most NFE-related decisions are made: NFE is only represented by those who are also representing the entire formal system. Alternatives discussed include a First Assistant Secretary for non-formal education, a separate government department for non-formal education, and the creation of a Commission for Non-Formal Education much like the Teaching Service Commission or the Commission for Higher Education. But for that to happen, there needs to be some way of voicing an opinion.

The last article in the volume, ***"Looking to the Future of Non-Formal Education in the Pacific"***, highlights some very interesting facts about NFE in Pacific countries. It points out that within the span of ten years in Papua New Guinea, there have been 47 reports on NFE containing at least 247 recommendations. So little has been done to implement these recommendations because many members of the discussion groups believe there is no government policy on NFE. This results in a tremendous gap between policy and practice, between rhetoric and reality. Many of the recommendations that have been made are unrealistic in that they do not meet the felt needs of the people or because they are designed to attract funds rather than serve the people.

Though there is considerable talk about supporting NFE, the reality falls far short of the potential throughout Pacific nations. The world economic depression has resulted in severe retrenchment and consolidation of formal education. With declining resources, less has been available from governments for non-formal education.

In Papua New Guinea, there were three major reviews of NFE in 1985: one was by John Croft, sponsored by the Australian Development Assistance Bureau; a second was by Michael Olsson, Ephraim Apelis and Jacqueline Wasilewski, sponsored by the National Department of Education to help plan a major development of NFE in the future, and a third was by Elizabeth Cox, sponsored by the NFE National Management Steering Committee, which oversees the administration of the NFE sectorial programme. All three reviews recommend the infusion of two million Kina a year from the national government into non-formal education by 1989.

In Papua New Guinea at the national level, non-formal education will soon disappear following major administrative changes that will place vocational centres back under formal education (ignoring their role in providing short courses, village-based training and extension activities in villages). The Division of Non-Formal Education will cease to exist, and the development of NFE in Papua New Guinea and other Pacific nations will, in the future, depend on the demands generated from **grass roots** and continued interest, and backing of churches and other private agencies, without which NFE may simply fade away.

Non-Formal Education in the Pacific Islands: An Overview presents surveys and analyses of non-formal education mainly in the Pacific Islands where the writer has worked. The paper generously quotes the Unesco/PROAP Bulletin ***Adult Education in Asia and the Pacific 1982***, but tries to show how the South Pacific Island NFE programmes differ from the NFE programmes in Asia.

The writer observes that due to the relatively small populations and the high proportion of external aid expenditure per capita in the Pacific Islands, universal formal education, at least to junior secondary level, is an attainable goal. But he admits that non-formal education is a poor cousin of the education system in almost all the islands and that NFE is mostly offered by a multitude of non-governmental agencies, including churches, and the government is generally confined to a vaguely defined co-ordinating role, or to vocational training programmes.

The literacy level in island state populations is generally higher in the native language, although many are literate in the English or French languages.

The article highlights the difficulty posed by language diversity to literacy programmes. In Vanuatu, the Solomon Islands and Papua New Guinea, linguistic diversity raises familiar problems for literacy education. In which language should literacy be taught? If literacy is taught in the hundreds of local languages, what would the functional use of such a skill be? Literacy in local languages might help to preserve those languages in the form in which they are currently spoken, but if there is nothing to read in that language other than, perhaps, the Bible and if people have an orally-oriented culture, is literacy education an advantage? Similar problems arise in relation to literacy education in official languages such as Pidgin or Bislama. Might this not undermine the indigenous languages if these **lingua franca** were promoted nationally as a medium of literacy? Might they not interfere too with the acquisition of English (or French, in Vanuatu) through formal education?

The involvement of a large number of NGOs in non-formal education is a mixed blessing in the Pacific Islands. Most of the NGOs working there are affiliated to various churches and religious organizations outside the islands, which bring their mother organizations' ideological and religious orientation to the islanders through non-formal education activities. There are many local NGOs, but they have either no role or a very marginal role.

Thus, the article suggests that while unco-ordinated NGO/voluntary agency work in non-formal education in the Pacific remains a problem, rigid government control over such activities would not be desirable either. Positive programmes of co-ordination and information and resource sharing between government and non-government agencies are needed on national and regional levels. Many countries and agencies in the region have made considerable efforts in this direction, but there is still much to be achieved. The writer suggests to the universities of the Pacific region to play a most active role in non-formal education.

Other write-ups dealing with NFE programmes in different South Pacific Islands include ***"Catering for Different Needs Through Combining Education in an Urban Setting: An Honiara Experience",*** which covers the activities of the Solomon Island Centre in Honiara, the national capital of the Solomon Islands.

The University of the South Pacific has nine extension centres, one of which is located in the Solomon Islands.

The Solomon Island Centre of the University of the South Pacific has helped in providing secondary education through non-formal channels and in providing relevant education to youths migrating from rural areas to the capital.

Non-formal education agents in Honiara respond to educational and training needs of urban dwellers in a variety of ways. The

University of the South Pacific Centre, under its Continuing Education Programme, organizes a wide range of activities which differ greatly in nature, scope and intensity. The central guiding principle has been the need of the students. Some students can be as young as thirteen while others are in their forties or fifties. With differences in age and aspirations, students come to the Centre with different needs, motivations and expectations and therefore the Centre must be fully aware of these factors and respond positively and appropriately.

The Continuing Education Programme provides short courses, workshops, seminars, discussion groups, radio talks, public lectures, drama, dance and art classes and turns out publications. The common feature of these activities is that they are designed to meet short-term needs of participants. Given the flexibility and adaptability of continuing education programmes, the non-formal educational activities have been seen as a reasonable way of responding to different needs. The Centre has initiated many different educational and cultural activities, ranging from arts and crafts to publications, nutrition seminars, and research projects.

Another article, ***Women's Programmes and Development in Tonga: Some Observations,*** is based on a brief study undertaken by the writer in 1982 as part of her work as adult educator at the Rural Development Centre. The study covers three programmes, i.e.: the Village Women's Development Programme of the Catholic Diocese of Tonga; the Home Economics Divisions of the Tonga Agriculture Department; and the Niuola Women. The study is based on interviews.

The Village Women's Development Programme of the Catholic Diocese of Tonga is regarded as the most active and effective women's programme in Tonga today. The main reasons for its success are:

1. the dedication and generous efforts of its sisters;
2. the willingness and enthusiasm of the village women;
3. the assistance provided by the FSP.

The writer's conclusion is that women's programmes in Tonga have certainly contributed to improving the homes of villagers, and that women's enthusiasm for these new ventures has reaped material wealth. However, there are problems which warrant serious consideration of the educational component of the programmes. For genuine development to take place, there is an urgent need for non-formal education to go hand in hand with an emphasis on material development – a non-formal education that encourages women to think, to reflect, to look beyond their doorsteps.

"Coming to the Post-Colonial Crossroads in Vanuatu: Lessons for Non-Formal Education in Papua New Guinea" provides an interesting comparison between NFE challenges in two Pacific nations. Vanuatu became independent in 1980. Its colonial history was difficult, dominated as it was by the competing influences of the condominium system of government in which the French and the British attempted to share administrative responsibility. Because of its colonial history, Vanuatu has inherited a dual system of education; i.e. the French System and the British System. But the writers say it not only inherited two languages of education but also two distinct philosophies of education and two distinct curricula.

Vanuatu is more multilingual than Papua New Guinea. Its total population is no more than that of the city of Port Moresby, yet there are an astonishing 105 vernacular languages spoken in the country, making Vanuatu the world's richest country in the number of languages for the size of its population. Each of these languages is spoken by an average of 1,000 people. In Papua New Guinea, with its 750 languages spoken by about three and a half million people, the average language has four or five times the number of speakers than the average language in Vanuatu". But Vanuatu has adopted **Bislama**, a local Vanuatuan language, as a national language. French and English still enjoy the status of official language. The writer remarks that Vanuatu has adopted one of its indigenous languages as a national language, but that Papua New Guinea still has to choose its own national language.

In other words, Papua New Guinea should look at Vanuatu, which is taking its own languages more seriously. The writer of the comparative article feels that non-formal education involves the entire community, rather than certain selected members of it, in ways that are practical and for the benefit of the whole community. So any programme of non-formal education must primarily be conducted in the community language. At the local level, this would include the vernacular, and at higher levels in Papua New Guinea, this could be either Tok Pison or Hiri Motu.

The article, ***Non-Formal Education at the Aboriginal Community College in South Australia,*** adds one more South Pacific dimension to the volume. The article gives a brief background of Aboriginals' education in general and then describes the adult non-formal education programme of a college for Aboriginals who need to upgrade their education during their adult life.

Of remaining articles, one deals with the popular film ***Tukana,*** which is an educational as well as entertaining work.

There are two articles on the role of the Adult Education Association for the Development of Non-formal Education in the Southe Pacific. The first, ***The Role of the Regional Adult Education Organization.*** Asian-South Pacific Bureau of Adult Education (ASPBAE) talks about the role of the Adult Education Association from the regional point of view and its relevance to the South Pacific. Another article, ***An Adult Education Association for the Pacific*** suggests strengthening the association of adult educators in the South Pacific by utilizing contacts established during meetings of adult educators of the sub-region.

As a whole, the volume is very rich in terms of information on various on-going programmes of non-formal education in Papua New Guinea and other countries in the South Pacific.

The write-ups highlight the progress and achievements made in the island countries but all in all they conclude that non-formal education has not received due attention and has not developed into a useful tool for encouraging the knowledge, skills and attitudes relevant to people in the working world, either educated or uneducated.

One writer in the book notes with surprise that literacy education receives the same low priority in the Pacific Islands as it does in the most economically and educationally advanced countries of the Asia-Pacific region, and mentions that the literacy debate of recent years has barely touched the South Pacific region. Therefore, the collection is worth studying by all those interested in the field of non-formal education in the region.

WOMEN'S ROLE IN ASIA AND THE PACIFIC

United Nations. Economic and Social Commission for Asia and the Pacific. ***Achievements of the United Nations Decade for Women in Asia and the Pacific.*** Bangkok, 1987. xii, 274 p. (ST/ESCAP/434).

Prior to the Nairobi World Conference on the UN Decade for Women, which was concluded in 1985, the ESCAP Secretariat conducted an Asia-Pacific region-wide survey to appraise the achievements of the decade in various countries. The results of this survey were first discussed at the Regional Intergovernmental Preparatory Meeting for the Nairobi Conference held in Tokyo, and later presented at the Nairobi Conference as a part of a world-wide survey on the status of women.

The present publication contains 23 country reports and a regional overview prepared for the Asia-Pacific region-wide survey. It reviews the achievements made towards the advancement of women's situations in political, economic and social development processes with sectoral references to employment, education and health during the UN Decade for Women.

The book is useful and valuable in the sense that it is a collection of available information related to women from various countries in the region. It is often held by many researchers and policy makers that data and information regarding women are so scattered that it is difficult to obtain information when needed. This book certainly contributes to facilitating data/information dissemination.

As mentioned in the introduction of the book, data on women are often inadequate or not properly arranged, and in some cases simply non-existent. There are, however, further problems with regard to data on women, such as biases against women in census or research surveys and stereotypical or discriminatory attitudes held by researchers. Women's contributions to society, particularly in the economic field, and the amount of work women carry out in real terms, have often been underestimated and not been correctly reflected in official records.

The present book is certainly not free from those constraints and limitations since its country reports are based on existing data, census and other official records. There is also obvious unevenness of coverage in the country reports, due to the problems mentioned above. However, the efforts of ESCAP to compile those country reports and to provide a regional overview should be duly acknowledged, for this book will serve as a handy reference to all who are interested in women's issues in general, and women in Asia and the Pacific in particular. The regional overviews provide a good capsule summary of women's plight in the region, and the book contains a wealth of quantitative information.

Each country report covers: (i) general developments, including governmental efforts, the setting up of a special office for women's affairs, legal and legislative provisions, women's participation in politics, etc., and (ii) sectoral developments, including achievements in three sectors – employment, education and health.

General development

The country reports reflect the asymmetrical profile of the status of women in the region. Regional governments, however, do share a commitment to the advancement of the status of women. All but one of the countries report the establishment of a national machinery for the promotion of women's interests and welfare. These bodies – their institutional location and concomitant responsibilities – differ from one country to another. In some countries, there is a special minister for women's affairs while in other countries a special office has been set up directly under the Prime Minister's Office or its equivalent. Yet in other countries, the responsibility has been given to national women's organizations. Regardless of the type of body, there is general national co-ordination and support for activities related to women in regional countries.

Integration of women in national development plans also occurs along different patterns. Some countries integrate women's concerns into their overall development programme while others prepare a separate chapter for women in their general development plan (e.g. India, Nepal, Samoa and Thailand). Furthermore, several countries have formulated (India, Japan, Malaysia, Nepal, Pakistan and Thailand), or are in the process of formulating (Fiji and Vietnam), separate national plans of action for the advancement of women.

The warnings found in the chapter of regional overviews concerning the inclusion of segregation of women into separate plans are noteworthy. It is observed that programmes for women have long been directed at family welfare, particularly children's welfare. Training for women has focused on skills related to housekeeping, home economics, maternal and child health care and nutrition programmes. Income-generation programmes for women also tend to emphasize these activities which have been considered suitable for women, such as sewing, knitting, making handicrafts, etc. There has been no perspective to see women as active agents or participants of development. As the book thus rightly points out, a long-term comprehensive commitment to the advancement of the status of women is needed to ensure a more balanced and effective orientation of development programmes.

HIGHER EDUCATION IN THE PHILIPPINES

Ables, Higino A.; Valera, Jaime B.; Ocampo, Pedro O. ***Realities, reflections and reform; a study of state universities and colleges in the Philippines.*** College, Laguna, University of the Philippines at Los Baños, 1987. 224 p.

This study is one of three studies* on state higher education in the Philippines which came out in 1987. The studies bring up-to-date the report of the Presidential Study Committee on State Higher Education issued in 1976. During the following ten years, the number of state universities and colleges (SUCs) more than doubled, from 38 SUCs in 1976 to 78 in 1986. Also by 1986, with the onset of a new government and the reorganization of the Department of Education, Culture and Sports, current data and **new thinking** were required for policy guidance and decisions. The year 1986 was considered timely to undertake this study.

The authors, who refer to the title of their study as the **three R's,** explain that the first **R** for "**Realities** denotes the data and information gathered during the survey of the 78 SUCs" (19 state universities and 59 state colleges), conducted from August 1986 to July 1987. The second **R** for "**Reflections** denotes the analyses and interpretations of the context, process and structure of the SUCs". The third **R** for "**Reform** is meant to suggest the changes that are taking place, or the options that are being proposed, to improve the effectiveness, equity and quality of these institutions".

For the **Realities** of the state universities and colleges (SUCs), information from as recent as 1987 was obtained from questionnaires, personal interviews and analyses of documents concerning the organization, governance, academic programmes, faculty, financing, enrolment and outputs of the SUCs.

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* The other two studies are:

Philippine Association of State Universities and Colleges Committee. ***An in-house study of state universities and colleges.*** Manila, PASUC, 1987. 109 p.

Task Force to Study State Higher Education. ***Report of state universities and colleges in the Philippines.*** Manila, Ministry of Education, Culture and sports, 1987. 3 v. mimeo.

Some 31 observations in the survey call attention to such features as the regional distribution of the SUCs; duplication of course offerings; special training in administration; teaching competence; time devoted by the staff to teaching, research and extension work; existence of research in the SUCs; media of instruction; educational facilities; trends in enrolment; expenditure per student; relationship between family income and performance in entrance examinations, and budget appropriation and management.

Noteworthy is the interest the authors have taken in delving for facts and figures describing the state of library facilities and services of the SUCs. Figures on library holdings, the very tools for learning and information in education, are often hard to come by in general studies and discourses on education, and in particular, educational administration. As the authors aptly point out, "the importance of the library to the total instructional programme is unrecognized". The authors note that in some institutions "the library did not look like one of the priorities of the administration . . . it was clear that other items of expense were given higher priority".

The authors also examine the state of research and information dissemination in the SUCs and observe that the absence of faculty publications "confirms a weakness of the institutions in extending information that they are expected to generate".

Exponents of equity should be interested in the figures provided on the existing leadership role of women in the SUCs, in particular in agricultural and fisheries colleges and in polytechnic institutions.

The extensive review of related literature represents a historical panorama of the various efforts undertaken in the Philippines to improve higher education, dating as far back as 1925 and as recent as 1987. The authors point out that while past studies and surveys on higher education show "no dearth of recommendations, unfortunately most have fallen by the wayside".

The **Reflections** in this study highlight major policy issues in higher education, such as the following questions posed by the authors:

1. What is the general evaluation of the function of state universities and colleges in the Philippines today?
2. Recognizing the heterogeneous quality of the SUCs, should sub-standard SUCs be phased out?
3. What is the greatest problem of the SUCs?

The deliberations on crucial issues touch upon the state of higher education and on politics and its effects on educational standards.

The current phenomenon of college graduates, including teachers, who leave their professional jobs for "lucrative occupations such as domestic help in international homes" questions the techno-economic functions of higher education, the quality of education, the political and social ends of education, and issues concerning equity and social mobility. In the discussions such pointed questions arise as:

1. What is the purpose of a college education?
2. What type of tertiary schooling can we realistically, consciously, but ideally, aspire to for the needs of a country like ours?"

Alternatives to the **Reform** are proposed in response to the various questions and issues raised throughout the study of the state universities and colleges. Arguments have been advanced for quality programmes, for the management and control of the budget, for improvement of the governance system and for a passage of legislation that can offer a "remedy to many problems besetting the state universities and colleges". The authors stress that legislation should aim "to improve the instruction, research and extension programmes of the SUCs for the benefit of the Filipinos in the countryside".

As the study demonstrates that only one out of seven SUCs undertake research, the authors emphasize the importance of continuous research to go hand in hand with the tasks of administration and training in the "quest for better management of institutions of higher learning". They further recommend the establishment of a Higher Education Research and Training Institute (HERTI).

To follow up on and complement this study of the SUCs, the authors indicate the need for a research study on what goes on in the classrooms of the SUCs in order to determine the knowledge and cognitive skills a college student possesses, and to be able to evaluate the institutions accordingly.

The study is amply supported by statistics and illustrated with models and charts. The appendices include categorized lists of the SUCs accompanied by facts and figures, a bibliography and a glossary.

The authors, who are professors at the College of Agriculture, University of the Philippines, state that the findings of the study provide "an adequate basis for action" and stress that "the time for decision and action is now".

EDUCATION AND WORK: THAILAND CASE STUDY

Vichai Tunsiri. ***Education and employment: the case study of Thailand.*** Bangkok, Unesco, 1987. 48 p. (Occasional Paper in Educational Planning, Management and Statistics No. 13)

This study highlights Thailand's highly productive experiences in policy planning in relation to education and employment and provides extensive information and objective analyses of educational development and planning in this regard.

The study consists of five chapters. The first chapter gives background information on the role and development of education. The second chapter, ***"Education and Employment: A Review of Planning Methodologies",*** illustrates and analyses planning methodologies used by Thai planners in generating five (and the draft Sixth) 5-year National Social and Economic Development Plans. Thus, the study covers approximately 30 years of planning efforts in Thailand. The limitations and weaknesses of the approaches applied are discussed, and recommendations made by various researches and studies elaborated. In Chapter Three, ***"Impact of Research Studies on Policy and Measures",*** further analyses of educational planning and employment made by researches and studies are presented, along with suggestions for rectification and alternatives. Special attention is given to the implications of equity and efficiency in Chapter Four. Chapter Five is the conclusion, which draws together the lessons of experience. These conclusions are applicable to other developing countries as well.

In Thailand, education is accepted as an essential means for national development. The relationship between education and employment has long been recognized, as can be seen from endeavours in planning and from the improvements to the provision of education to serve manpower requirements. Particularly since 1977, major educational reforms have been introduced and satisfactory progress has been achieved in quality improvement and in increasing the enrolment of learners at every level. However, with the economic recession, such quantitative expansion resulted in an increase of educated unemployed.

These circumstances have caused processes of planning and implementation to be reconsidered, and a number of research studies have been conducted on the problem. The methodologies for development planning were frequently the foci for analyses and criticisms. The planning strategy popularly used during the earlier period was the manpower requirement approach – one of the principle mechanisms for linking education and employment. The main hypothesis underlying this approach was that education and employment could be linked most efficiently if manpower requirements were met with educational outputs. Manpower requirements were estimated by manpower projections which assumed that a direct relationship existed between growth and employment and that projected requirements determined the estimation of vocations needed, which is turn determined the enrolment targets and the areas in which the provision of education should be made.

In Thailand, the manpower planning approach was used during the First Development Plan in 1961, and this approach continued to be used during the Second (1967-1971) and the Third Plans (1972-1976). But due to the rise in unemployment, especially of the educated unemployed, this approach was dropped during the planning stages of the Fourth Plan (1977-1981). It was then partially applied, with new dimensions signified by research, for the Fifth Plan (1982-1986).

According to research studies, the undesirable outcome of this approach in Thailand originated from its facile assumption of zero labour substitution – that only one combination of education and training is possible for a given occupation – its neglect of occupational mobility, and its focus only on wage employment in the formal sector to the exclusion of all other forms of economic activity.

In addition to studies on methodologies, other aspects related to education and employment were investigated and explored in Thailand. Major findings and recommendations were taken up in the planning process such as co-operation at the institutional level and changes in the objectives of vocational education, from being exclusively related to the wage sector to include also the informal sector and self-employment. These shifts of planning perspectives resulted in improved curriculum structures; learning/teaching practices, and alternative provisions of education, for example through non-formal education.

Later, many other wide-ranging investigations were made to solve the planning problems. These too resulted in guidelines to determine specific planning elements, such as enrolment targets, and incorporate other planning techniques, such as rates of return.

The variety of critical analyses and studies pointed to the fact that apart from the use of unreliable planning approaches there were several issues that also contributed to the planning problems. These included the lack of relevant Thai data with regard to critical elements to form the basis for planning; poor co-ordination of planning and implementation agencies, and political and social pressures.

Further extensive studies showed that education was not the only cause of unemployment. Unemployment in Thailand was a very complex problem with so-called "ten-rooted causes", namely: the general slow-down of the world economy; incorrect development strategies; tuition fees not reflecting actual costs; response by education authorities to social pressures; sharp reduction in the rate of recruitment in the public sector; rapid rate of population growth in the 1960s; reduction in fertility rates; increase in longevity of the older population; replacement in job positions by persons of higher education levels, and inconsistency in the educational system and job markets.

Recommendations put forward to solve the problems included the gradual retention of the 12-14 year age group at the lower secondary level in schools in order to prevent the flooding of the labour market; transferring the cost of public education for higher education to the individual; a recruitment and promotion system giving greater weight to job experience rather than to academic qualifications; vocational education providing general skills training, while leaving specific skills training to industrial enterprises; improving the quality of planning, and establishing closer co-operation and co-ordination between public education institutes and private and public enterprises.

Within the education system, the recognition of the mismatch between the requirements of employees and the attributes of educational products resulted in the reconsideration and adjustment of curricula. The emphasis now is not only on content, but also on the development of attitudes, spirit and character development, and on readiness to be trained. These are now considered most important in recruitment by many employers. Rapid responses to market demand are made through modular approaches, enabling the flexible provision of different types of skills training as, and when, required. Flexible curricula and scheduling are permitted. Direct experience and apprenticeships are provided. Non-formal education is made available. Aside from the shift of focus of educational planning from merely quantitative to also qualitative parameters, education for employment in Thailand has changed to education for work generation.

Due to these changes, equity and efficiency have to be carefully distinguished. Equity involves fair distribution of resources, but not necessarily an efficient distribution of resources. Efficiency is a **rationality** concept – getting the most out of the least. A judicious combination of formal and non-formal modes of learning would serve better the aims of equity **and** efficiency than mere expansion of formal school programmes, especially in vocational and technical education. The measures undertaken by the Thai Government to promote equity include new learning systems; work oriented curricula; community secondary schools and 50 per cent of students from primary education entering secondary education and non-formal education. In higher education, equity and efficiency are attempted through the quota system, and through the establishment of open universities. However, it is recognized that this in turn can aggravate unemployment of the educated.

Some important, conflicting issues still remain open for discussion. One such issue is education in school as career specific training or general skills training, i.e. education for the **ready-trained.**

As for the problem of unemployment, as far as contributions to the solution by the education sector are concerned, no single simple strategy has been advanced. Solutions involve reformation of and adjustment to the whole process of education, starting from planning and management through curriculum development, personnel training, implementation, monitoring, evaluation and follow-up. Adequate information has to be collected to form the basis for planning. Reliable planning approaches have to be used and co-ordination and co-operation sought for effective planning and implementation of educational programmes. There should also be room for flexibility and adjustment. Further researches and critical and analytical studies are still essential for future action.

The richly rewarding experiences of Thailand in relation to education and employment provide an interesting and enlightening case study for developing countries, illustrating tireless, self-critical, research-based, and continuing efforts in educational planning to meet employment requirements, and to safeguard against aberrations produced by the education system itself and by forces outside it.

The study of the relationship between education and employment in Thailand has brought out significant issues common to many developing countries in the throes of industrialization. The initial demand for high and middle levels of manpower for modernization has led to the manpower planning in the early period. As rapid and unpredictable changes have taken place in the employment market, different techniques and strategies have evolved. Recent attention has focused on qualitative planning as well as on increasing co-operation between private industries and educational institutions and the improvement of market information systems and vocational guidance. These and further suggestions for improvement should, in the final analysis, have an impact on efficient management and equitable distribution of educational services and resources.

PARTICIPATION IN EDUCATION – AUSTRALIA

Williams, Trevor [et al.] ***Participation in education.*** Hawthorn, Vic., Australian Council for Educational Research, 1987. 215 p. (ACER research monograph no. 31).

This study offers a comprehensive nation-wide picture of participation in education in Australia. It presents many facts which generally run counter to cherished beliefs about the **who** and **why** of participation in education and in the process challenges some unduly held educational myths.

The report documents participation at eight stages of education: completion of secondary education (Year 12); post-secondary education; technical and further education (TAFE); apprenticeships; higher education; universities; colleges of advanced education (CAEs), and degree programmes. Data is provided by two national probability samples of young people four years apart in age i.e., 19 years and 22 years, to estimate participation rates on an **ever/never** basis.

The report provides estimates of participation rates against such categories as: family social and economic status, ethnicity, rurality, school system, gender and State/Territory of residence. In addition, the report contains two references, ***school achievement*** and ***schooling completed***. Differences in participation rates – especially differences in these rates, other things being equal – are also examined with the view to documenting group differences in participation which might be considered inequitable.

The major findings of this research study are that:

1. two out of every three children from **professional** families complete Year 12 – one out of every four children of unskilled workers reaches this same level of education;
2. the effect of family wealth is not as large as we might suppose – but there are differences;

3. a sizeable part of the socio-economic imbalance in higher education has its roots in secondary school;
4. any reduction in programmes of financial assistance is likely to have an adverse effect on low socio-economic status females;
5. the majority of persons from non-English-speaking backgrounds are not disadvantaged;
6. between-system differences in participation remain – non-government schools may do things differently, perhaps better;
7. by age 10 some students have already failed to learn what schools teach and are set on a course likely to divorce them from further education.

In terms of levels of participation, the study shows that (i) one-half of the next generation will not have completed secondary schooling, (ii) four out of ten of these drop-outs will not have engaged in any formal education after leaving secondary school, and (iii) only one in seven young people will have ever undertaken a degree.

The study examines participation and socio-economic status by separately covering social and economic aspects. With regard to the social aspects, particularly the father's occupation, the study finds that:

1. while two out of every three children from **professional** family backgrounds complete Year 12, only one out of every four of the children of unskilled workers reaches this same level of education;
2. in higher education, four out of every 10 children from professional families versus one out of every 10 children of unskilled workers complete a degree course.
3. of those eligible to enter higher education, about 60 per cent come from professional family backgrounds, while some 40 to 50 per cent come from the lowest status groups;
4. between the late '70s and early '80s participation in post-secondary education increased . . . more young people from all socio-economic backgrounds entered Technical and Further Education (TAFE) courses;

5. young persons from professional backgrounds show a greater tendency to return to education;
6. social status affects both participation and the growth of participation in higher education;
7. fewer females than males enter university programmes but in Colleges of Advanced Education (CAE) more females than males enroll.

The study illustrates that between the late 1970s and early 1980s, family economic circumstance became more important a consideration in educational participation and that those from the wealthiest of families became about twice as likely to complete Year 12, undertake post-secondary education, attend university, enroll in a CAE and study for a degree. Other things being equal, children of wealthy parents are thus better off in terms of educational participation. In spite of the fact that capable students from poorer families are disadvantaged in higher education, differences in wealth never are more than five percentage points when it comes to participation in higher education. But in TAFE, differences between poor and rich families range from 10 to 16 percentage points, indicating that in TAFE wealth is still the greatest consideration for participation. Furthermore, the increase in participation of the most wealthy between ages 19 and 22 years is at least twice that for those from the least wealthy families. The report also suggests that appropriate programmes of financial assistance are likely to promote increased educational participation.

The study demonstrates that the socio-economic composition of student populations in higher education does not mirror the composition of the population as a whole, and that a sizeable part of the socio-economic imbalance in higher education has its roots in secondary school. Other things being equal, wealth adds, at most, five percentage points to the participation rate of the most wealthy, while any reduction in programmes of financial assistance is likely to have the greatest effect on low socio-economic status (SES) females. Further, the socio-economic imbalance in higher education derives from two facts: fewer persons from low SES backgrounds are eligible for entry and, of the eligible, fewer have levels of achievement which gain them entry and/or predispose them to continue in a scholastic environment. Equity seems fairly well served by the present student assistance schemes.

With respect to ethnic group differences in participation, the study points out that children of the major immigrant groups participate in education at rates equal to or higher than the majority. Although their participation in TAFE and apprenticeships was minimal in the late 1970s, by the early 1980s children of immigrant groups participated at levels equivalent to the other two groups. Higher education became less attractive to the daughters of immigrants in the early 1980s but the majority of persons from non-English-speaking backgrounds are not disadvantaged.

Considering rural disadvantages, the study finds that the participation rates of young people from the most rural families are some five percentage points below those of persons living in urban areas. It is urban persons rather than rural persons who go back into education in their early twenties. Participation rates of rural youth are often lower but never higher than those of urban youth.

The study also indicates that over 80 per cent of independent school students complete Year 12 compared to only 30 per cent of government school students, and that over half of independent school students enter higher education compared with 15 per cent of government school students. The former also enter university at five times the rate of the latter. If the independent schools were not socio-economically selective their Year 12 completion rate would be lower. A further explanation for the difference in rates is due to differences in psychological support in both school systems.

The study reveals some interesting gender differences: females complete Year 12 at rates greater than males; males enter post-secondary education in greater proportions; apprenticeships mostly remain the preserve of males after Year 12; females participate in higher education at lower rates than do males, and universities and degree courses attract a marginally greater percentage of males.

Furthermore, there are differences by State/Territory, with an apparent high level of participation by students in the ACT; a sizeable increase in participation in TAFE for NSW (particularly with males entering apprenticeship training) and a sharp drop in South Australia of persons entering higher education.

In its discussion on achievement and participation, the study reveals that of the lowest income quartile, one in ten complete all twelve years, and of the highest income quartile six out of ten do so.

Other things being equal, those in the highest economic quartile are three times likelier than the less wealthy to complete the full 12 years of secondary schooling. By age 10, some students fail to learn what schools teach and are set on a course likely to divorce them from education at an early age. The proportion of those in the highest income quartile who enter higher education equals or exceeds total participation in higher education of the three less economically well-off groups. Even among those students who have met the minimum eligibility requirements for entry to higher education, there are differences in participation between the lowest and the highest quartile of 35 to 50 percentage points.

Of students who left school in Year 9, only one in four enter some form of post-secondary education. Of those who complete all 12 years of secondary school, higher education still remains the preserve of those who have graduated from elite secondary schools. Seventy per cent of those who leave school in Year 9 undertake no further formal education, and out of Year 12 graduates, about 70 per cent take up further formal education.

The study concludes that Year 12 completion rates are likely to be increased most by changing attitudes towards education. The study also suggests that among those eligible to enter higher education, there is no socio-economic imbalance to speak of. However, any increased demand on the economic resources of lower income families is likely to result in reduced educational participation of their children. According to the study there is little evidence that gender, geography and ethnicity restrict access to education. But social status differences bring about differences in attitudes towards education, and the lack of economic resources present a real impediment to participation. Financial assistance to low-income families will increase the participation rates of their children, but in order to raise participation overall, there is a need to alter attitudes towards education.

Participation in education – Australia

Participation in education – Australia is an interesting and revealing document which challenges and negates many general facts, myths and common beliefs about participation in education in Australia. The most important finding of the study is that not all group differences in participation in education can be explained by categories such as family social or economic status or ethnicity or rurality. Similarly, gender or State/Territory of residence have little or no effect on participation in education. In the final analysis, according to the study, what really matters is that students who have failed to learn what the schools try to teach are set on a course which divorces them from education progressively. The critical importance of initial years of schooling is thus once again revealed for the developing countries of the region, where more than 50 per cent of the students drop out before completing the primary cycle of education.

EDUCATIONAL REFORM IN JAPAN

Japanese National Council for Educational Reform. ***Fourth and final report of educational reform.*** Tokyo, 1987. 97 p.

In September 1984 the Prime Minister of Japan asked the National Council on Educational Reform in Japan to advise him on various aspects of basic educational policy and measures so as to ensure that education will be compatible with the social changes and cultural development of the country. The Council has already published a series of three reports dealing with various important issues, including a life-long learning system; reforms in elementary and secondary education; reforms in the organization and management of institutions of higher education; sports and education; and educational costs and financing.

The present report, which is also the fourth and final one, addresses issues of "public administration in education, science and culture", and "the beginning of the school year". It also suggests specific strategies of educational reform for the future. Moreover, the present report has incorporated a synthesis of the preceeding three reports, reviewing the progress of the implementation of the recommendations made in the three previous reports.

The present report consists of five chapters:

1. Necessity of educational reform;
2. Basic direction of educational reform;
3. Concrete measures of educational reform;
4. Proposals concerning public administration in education, science and culture, and the beginning of the school year; and
5. Implementation of educational reform.

Various aspects concerning the necessity of educational reform are dealt with in three sections, namely, (a) the demand for educational reform; (b) the history and present state of education in Japan; and (c) basic principles of education.

In addressing the necessity of educational reform, the National Council reflects upon the present state of and current demand for education, as well as upon past developments in education, and suggests basic requirements for education in the future. On the eve of the 21st Century, Japan finds itself at the threshold of an era of greater social maturity, characterized by rapid advances in information and science and technology, and a new internationalization. The starting point of current educational reform is recognized to be the harnessing of opportunities and challenges presented by the new information age, with all the possible changes it could bring to Japanese culture and society.

The report keeps in mind that the life-style and needs of the Japanese people have diversified as a result of an improved standard of living, increased leisure time, better social security provisions, longer and better schooling, and so on. Therefore, the characteristics of **affluence** in life demanded by Japanese people are going to change drastically as follows: (i) **from material affluence to mental affluence**; (ii) from quantitative affluence to qualitative affluence; (iii) from an emphasis on **hardware** to an emphasis on **software**; and (iv) from uniformity and homogeneity to more diversity and to the expansion of freedom and choice.

Another factor highlighted in the report, and leading to the necessity of educational reform, is the advancement of science and technology. In response to more advanced and more diversified demands from society at large, it is expected that new developments will take place in science and technology in the foreseeable future. It is pointed out that almost all fields of science and technology will become more complex and sophisticated and that science and technology are going to shift from hardware to software with computerization as a key element. In the field of life sciences, the progress of research and development in genetics and mental behaviour has affected human existence itself. In this context, therefore, there is a call for science and technology to develop in such a manner as can ensure a good harmony with human beings and society. All these trends have had a great impact on education and research, on human knowledge and technology, and on social systems.

The necessity of educational reform in Japan is connected with one other important factor in the report, namely, **internationalization**. The report emphasizes that due to global interdependence in the world today, Japan cannot survive in isolation from the international community with regard to various aspects of development including natural resources, energy, industry, commerce, education, culture, and so on. Japan has entered a new age of internationalization whereby the country has to assume its share of responsibility in the international community if it is to continue to develop and prosper. The distinctive characteristics of Japanese tradition and culture have to be renewed to enable Japan to contribute to the creation of a peaceful and prosperous international community based on co-existence and co-operation among diverse cultures in a pluralistic system.

A brief review of educational development in Japan is carried in the report along with an assessment of the current state of education in the country. The history of Japan's modern education has extended over one century since the introduction of a modern system of formal education. Based on the principle of equal educational opportunity for all, great efforts have been made during the post World War II period to achieve a remarkable spread and quantitative development of education and to maintain and improve educational standards. The report is emphatic in stating that this development of a modern educational system has become a driving force for the social and economic development of the nation and has greatly contributed to the improvement of the people's living and culture. On the other hand, a variety of problems and limitations are recognized:

1. Principles such as the full development of personality, respect for individuality and freedom, which were emphasized in the educational reform after World War II, have not necessarily become fully established.
2. The content and methods of teaching in schools tend to be uniform, and many people too often insist on extremely formal equality. There have been no sufficient efforts to identify and develop the personality, abilities and attitudes of individuals. Excessive competition in entrance examinations has led to too much emphasis on students' scores in standardized achievement tests and on factual knowledge. Too much value has been placed on rote exercises rather than on creativity, thinking ability or the power of expression.

3. Universities lack distinctive individuality with regard to educational programmes. Specific research in Japanese universities has very often tended to emphasize the practical application of science to technology. From a global perspective, Japanese universities have made little contribution to the development of pure science or basic research.
4. The social climate, characterized by the value placed on the educational background of individuals, encourages students to compete to enter **prestigious** universities and famous industrial firms.
5. The uniform and rigid system of educational administration is hindering the activation of education to some extent. In addition, educational administration agencies are lacking in flexibility and positive attitudes to cope with new demands for a wide range of educational activities outside formal schooling.
6. After World War II, a climate of mistrust and confrontation was created in the education sector partly because some teachers' unions unduly intervened in political struggles and interfered with school curriculum policies.

According to the report, the National Council on Educational Reform identified the following goals of education as especially important for the 21st Century: (a) the nurturing of open and generous hearts and minds, strong bodies, and richly creative spirits; (b) the development of free and self-determining spirits and public-minded characters; and (c) the cultivation of Japanese who are competent to live as members of the world community.

To achieve the goals of education for the 21st Century, the Council put forth some basic principles to promote educational reforms. The report highlights the ***basic direction of educational reform***, which deals with three sections: (a) the principle of putting emphasis on individuality; (b) transition to a life-long learning system; and (c) coping with various changes.

Putting emphasis on individuality is identified as an important principle to be emphasized in all aspects of current educational reform. In order to cope positively and flexibly with the social changes expected in the rest of the century and the next, it is considered important to foster "creativity, thinking ability and power of expression". These qualities are required in all fields, including the arts, science and technology. As the society has matured, individuality and diversity have become more accepted, and demands for freedom of choice have been increasing. In order to cope flexibly with the heightened and diversified demands for education, it is considered of equal importance to ensure the expansion of opportunities for choices in education.

Regarding the transition to a life-long learning system, it is emphasized that along with the trends of higher income, an increase in leisure time and the ageing of the population, a desire for continuous educational opportunities at different stages of life has been growing. It is envisaged that in the future, with the learning acquired in schools as a basis, people will continue to study throughout life, at their own initiative and at their own pace. A wide range of learning opportunities should be provided through formal education, non-formal education, vocational education, and comprehensive educational networks including non-governmental bodies offering academic, cultural and sports activities, and information industries providing various educational opportunities. Moreover, all learning opportunities available in the home, at school, in the community and elsewhere in society should be further developed and improved.

The report draws special attention to aspects of coping with changes, particularly, (a) the contribution to the international community; and (b) coping with an information-oriented society.

From a global perspective, the report points out that Japan will have to actively contribute to the peace and prosperity of mankind and carry out relevant responsibilities as a member of the international community. At the same time, it is considered necessary to upgrade the quality of Japanese educational institutions, particularly at the level of educational and research activities of universities. The assumption that Japanese educational institutions are establishments for Japanese only needs to be revamped. As regards the education sector's capability to cope with internationalization, it is necessary to change not only the structure of the educational system, but also the mental attitudes of educators and educational administrators so that Japan's education may be more widely open to the international community. An educational system has to be created which can cope flexibly with changing international relations and is equipped with an innovative capacity for constant staff renewal.

Coping with an information-oriented society is considered of special significance in setting the basic direction for educational reform. New information media are bringing about dramatic changes and are facilitating the communication of information between instructor and learner. These media have also produced a basic easing of spatio-temporal limitations and a creation of new **learning spaces** based on information networks.

The report cautions, however, about possible adverse effects of the spread of information media, such as: a decrease in direct experience; a striking increase in indirect experience; excessive dependence on information, and various symptoms of maladjustment to a flood of information. The report suggests to carefully analyse and assess, from an educational point of view, the physical, mental and cultural impacts of the dissemination of information media. Information media accordingly should be incorporated into educational processes in such a way as to contribute to the humanization of educational environments.

Under ***concrete measures for educational reform***, the report takes up the following five issues: (i) the development of life-long structures; (ii) the diversification and reform of institutions of higher education; (iii) the enrichment and reform of elementary and secondary education; (iv) reforms for coping with internationalization; (v) reforms for coping with the information age; and (vi) the reform of educational administration and finance.

With regard to life-long learning structures, different measures are suggested following three directions: (i) to create a life-long learning society relevant to the 21st Century; (ii) to positively reform and innovate formal education in schools and universities; and (iii) to make further positive efforts to improve the process of personnel management, including the recruitment of new employees in industrial firms and government offices.

More specifically, it is suggested that (i) people should continue to study throughout life on the basis of their formal education and in accordance with their spontaneous will; (ii) special individual talent should be positively evaluated; (iii) educational influence at home should be restored; (iv) the role of institutions of formal education in the context of life-long learning should be enhanced; (v) voluntary learning activities should be promoted through the development of an educational network and the provision of counselling services; (vi) vocational training centres should be strengthened as facilities for the development of vocational capabilities; and (vii) the system of promotion of employees should be diversified by introducing appropriate procedures for evaluating the results of training and education programmes.

The report stresses that institutions of higher education should, in accordance with diverse demands of the public, contribute both to the development of qualified human resources and to the advancement of creative scientific research. Universities are to be made more conscious of their social obligations and responsibilities and of the need to verify and evaluate constantly their own educational and research activities, as well as the extent of their contribution to society.

In the field of elementary and secondary education it is suggested that measures be implemented to improve the content of teaching by instilling proper attention to the teaching of basic manners and habits, the willingness to follow social norms in daily life, and the development of a good attitude toward life. It is emphasized that improvement of the content of instruction should be guided by the principle of full acquisition of basic knowledge and skills and the development of personality. It is also suggested that children fully acquire the basic and essential knowledge and skills necessary to cultivate a sound basis for character formation throughout life and that they be assisted in independent learning. To this end, an emphasis on essentials should be attempted at all levels – elementary, lower secondary and upper secondary – when formulating the content of instruction.

In order to enable educational programmes to cope with the new **internationalization**, it is considered advisable to undertake various experiments at different levels and in different fields of education. It is suggested that national and local government authorities take the lead in working out related innovations; that resource centre courses in international understanding be enhanced, and that the exchange and dissemination of information on concrete attempts at **internationalization** in different fields be encouraged.

An observation is made in the report that information technology has been spreading more rapidly than anticipated in the past.

It is envisaged that in years ahead, information technology relating to the natural environment and traditional culture be recognized. In this regard, it is suggested that (i) an **information morality** – a basic consciousness of the ideal of the content, means and other aspects of information – be promoted. New ethics and a new morality should be established and an awareness of information values should be encouraged; (ii) the creation of a new system of teaching-learning relevant to an information-oriented society be given special attention; (iii) the utilization of information media in elementary and secondary education as well as in the education of adults and out-of-school youths be promoted; (iv) the utilization of information media in higher education and scientific research and the cultivation of experts for the information age likewise be encouraged.

Finally, the report lists a number of suggested measures for the reform of educational administration and finance. Such measures are based on the following requirements: implementing bold deregulation; realizing the principles of freedom, self determination and individual responsibility on the part of each supplier of educational services, and expanding diverse opportunities of choice. More specifically, it is suggested that the following measures be implemented to reform the system of government standards and approval: (i) a review of national regulations guiding standards such as the national standards for the establishment of universities and courses of study for elementary and secondary schools; (ii) the promotion of the establishment of private elementary and lower secondary schools.

Measures for the promotion of decentralization comprise: (i) a review of the roles of national and local governments; (ii) revitalizing the role of local boards of education; (iii) dealing with **juku** and other private education industries.

With regard to educational costs and the financing of education it is recommended that (i) a preferential allocation of resources be made towards education, research, culture and sports; (ii) a new division of roles be arranged between the public and the private sectors while ensuring co-operation between the two sectors; (iii) there be a more rational and efficient management of educational finances; (iv) there be better utilization of the energy of the private sector; (v) measures to alleviate the financial burden of parents regarding their children's education be considered.

The present report of the National Council on Educational Reform in Japan has addressed a wide range of contemporary issues in educational development in the light of socio-economic, technological and cultural changes in the country. It is comprehensive in its coverage of various dimensions and aspects of educational policy development, thorough in its analysis of specific issues,and pragmatic in its proposal of measures for implementation of specific reform proposals. Policy makers, educational planners and administrators, as well as researchers in contemporary educational development, could gain much by examining the experience of Japan in initiating and formulating current educational reforms, as well as by examining the other measures enumerated in the present document.

MALAYSIA: A CASE STUDY OF COMPUTER EDUCATION

SEAMEO. Regional Centre for Education in Science and Mathematics. ***Computer education and the use of computers in Penang educational institutions; a pilot study,*** prepared by Praphon Jearakul, Leong Yong Park, Kittiporn Punyapinyophol [and others]. Penang, Malaysia. 1987. xxiii, 367 p.

Many countries of Asia and the Pacific are currently embarking on programmes to introduce computers into education. The use of computers in school is a relatively new phenomenon so there is much room for the sharing of experiences, particularly by documenting and disseminating information on the approaches adopted by some of the more advanced countries, and on problems and issues encountered, as well as new orientations and prospects.

This publication summarizes the findings of a pilot study on the use of computers in education in the state of Penang in Malaysia. The study was carried out within the framework of a major research project of the Regional Centre for Education in Science and Mathematics (RECSAM), aimed at compiling information on the state of computer education in the SEAMEO member countries.

As part of the study, a survey of computer use was undertaken in all sixty-four public secondary schools and three teacher training colleges in Penang in 1986. The survey revealed that twenty seven schools were equipped with computers. Twenty four of these schools provided detailed information on their computer facilities. In addition, each school selected fifteen teachers (five for science subjects, five in mathematics, and five other subject teachers) to provide information on what they thought of computers and their use in the educational process.

To assess the level of computer literacy and awareness of students and teachers in the schools and teacher training colleges, case studies were compiled following the methodology of the Minnesota Computer Literacy and Awareness Assesssment (MCLAA), which examines the affective and cognitive attributes related to computer use in education.

An interesting approach adopted in this publication was to include in the early chapters a concise history of the development of computer technology and of its use in education. Succinct descriptions of the characteristics of different generations of computers were given. This was followed by accounts of the early use of computers in the formal learning process such as the TICCIT, CONDUIT and MECC projects in the United States of America; the NDPCAL Project in the United Kingdom, and the CARE project in Canada.

This approach was found to be useful in that it defined the terminology to be used throughout the publication and explained the major dimensions involved in the development of a computer education programme. This helped to clarify the terms of reference of the study and the rationale for the selection of questions and issues addressed in the study.

A primary objective of the study was to gather information on the availability of computer facilities in schools; their use; their impact on the school curriculum and on teacher training programmes; the perceived role of computers in education, and major issues related to decision-making on the introduction of computers in schools.

The survey therefore attempted to find out about the availability of computer facilities in schools and future acquisition plans; about patterns of acquisition, deployment and use; about user profiles; the indigenous capacity to develop programmes and software; the organization of computer clubs and classes, and about the perceptions of administrators, teachers and students.

With the advent and proliferation of microcomputers, computer education has entered a new phase in which more schools, families and individuals have access to computers. Computer-assisted instruction has expanded rapidly and has become increasingly common in different teaching/learning processes. The notion of computer literacy and the teaching of LOGO have been introduced in primary and secondary schools. With recent developments in artificial intelligence, computer education is offering new avenues in learning, particularly as initial applications of artificial intelligence in the form of authoring systems are being tested these days.

Computers have special relevance in the teaching of mathematics and science. The many uses of computers and the possible impact on the teaching of science and mathematics were examined in this study. It was pointed out that there is a need in the future to consider increased use of computers in curricula for science and mathematics.

Other possible applications of computers in education were described, namely in testing and evaluation, in educational information and documentation, as well as in support for educational administration. The many advantages that computer use provides, such as speed, reliability, and ability to process large quantities of data and information, were all mentioned. Obstacles and constraints to a more extended use of computers in the developing countries, such as high costs and lack of expertise and personnel, were given due consideration in this publication.

In terms of the results of the study, a total of 112 findings were obtained, regrouped under two major headings: (i) findings regarding schools; and (ii) findings regarding teacher training institutions. As far as the schools were concerned, in the area of availability and use of computers, urban schools tended to be better equipped than rural schools. In general, there seemed to be a shortage of well-qualified teachers for computer education. There were wide disparities in terms of the number of computers at each school, with two schools having more than twenty computers each and two-thirds of the other schools owning less than five computers each.

Schools in Penang, Malaysia, are mostly equipped with IBM compatible and APPLE compatible computers. More than half of the microcomputers had 64K random access memory capacity; 19.5 per cent had 256K; 16 per cent had 640K, and 10 per cent had 128K capacities. Not all the computers had attached printers. Only three schools had colour systems. Secondary schools in Penang began acquiring computers in 1983. The acquisition trend accelerated in 1985 and 1986, during which more than half of the existing pool of microcomputers were acquired. Regarding housing facilities for the computers, half of the schools put the computers in air-conditioned rooms.

Except for one school participating in the computer education pilot project of the Ministry of Education, the schools did not receive any government financial allocation for the acquisition of computers. Parent-teacher associations and private donations were the two most common sources of funding. Other sources of funding included school governing boards, computer club fees, school funds, fund raising activities, donations from government and non-government organizations, and alumni associations.

Six types of computer software were available in secondary schools in Penang. The three most common types were word-processor, database management and graphics packages. Other software included spreadsheet, CAI for science and mathematics, and games. Six programming languages were being taught in Penang. BASIC was by far the most prevalent language, followed by LOGO, Pascal, COBOL, machine language, and assembly language. No single public secondary school in Penang had developed its own CAI software.

Computer club fees and donations from parent-teacher associations were the two main sources of funding for the acquisition of computer software.

Personnel assigned to take charge of computers in schools varied from none to six. The most prevalent practice was to assign two staff to be responsible for the computer in each school. Not a single school allocated an annual budget to support computer activities and maintain computer facilities. Instead, computer activities were financed through fees collected from students participating in them.

All but two of the 27 schools surveyed had computer clubs. There were no formal computer education courses in school curricula except in the school covered by the computer education pilot project. The computer classes that existed were activities of the computer club and were mainly attended by students who were members of the computer club.

Computers were mostly used as a tool in the schools for the purposes of evaluation, keeping students' and teachers' records; to assist in time-tabling and management of classroom utilization; for general office work, and for documentation and library services.

Duration of computer classes usually ranged from two months to one year, with class sessions ranging from one to three hours per week. The number of classes varied from one class to more than ten classes. Class size ranged from 10 to 40 students each. These classes were handled by one or several teachers.

Computer-assisted instruction (CAI) was not widely practised in Penang secondary schools. Only three schools reported to be using CAI packages, mainly for subjects such as science, mathematics and English. The software was used by individual students for remedial purposes, and not by teachers for group instruction in the classroom. The software was used mainly by lower secondary students.

High-ranking administrators interviewed during the study were of the opinion that computer education should be included in the formal curriculum. At the lower-secondary level, they thought that computer education should be taught at the **awareness** level, while at the upper-secondary level that the emphasis should be on computer literacy. It was indicated that schools should be allowed to introduce computer literacy as optional courses at the beginning of the year.

The Penang State Department of Education assigned two officers from the curriculum unit to provide advisory services on computers in schools. Four factors have been identified that could promote the introduction and use of computers in school: (i) clear direction from the Ministry of Education; (ii) availability of experts in computer education to support school computing programmes; and (iii) readiness of schools to allocate resources, and (iv) interest among the student body.

A number of issues emerged and were summarized in the study as follows:

1. There is a need for clear policy regarding implementation of computer education in schools.
2. What would be the appropriate level of public funding for computer education programmes?
3. Should the government provide specific guidelines related to: types of computers and peripherals in schools; what computer software to use and develop; specifications as to facilities; recurrent budgets for running computer education programmes; the recruitment and training of computer educational personnel, and the management of computer education programmes?

As far as teachers and students were concerned, a majority advocated the introduction of computer education in schools. They saw an increasing need for computers in schools. About 60 per cent of the teachers thought that general computer education should be made compulsory in secondary schools. A large proportion of teachers also said they would welcome more opportunities to learn about computers.

This publication provides much useful insight into the two main dilemmas facing computer use in education today. The first relates to doubts expressed by many educators as to the possible contribution, or even likely negative impact, of learning how to use computers. The second centres on the high cost and resource support required to develop computer education, which are beyond the means of most schools in the developing world.

The survey results clearly indicate the many elitist tendencies of the present development trend in computer education. They also point out the existing gaps in terms of hardware, software and trained teachers, not to mention an appropriate curriculum in which computer education would have its proper place and role in the overall educational process. The most important contribution of this publication, however, is that it gives valuable guidance to policy and decision makers who are contemplating the introduction of computers in schools, by bringing to their attention the kinds of policy dimensions and issues to take into consideration.

In many ways, the general overview in Chapter Two offers a good introduction to computer education for laymen such as subject teachers, computer scientists, educational administrators, etc. The survey findings presented in the publication, however, should be interpreted with care so as to ensure a balanced, albeit preliminary, appraisal of computer use in education.

GIRLS' EDUCATION IN AUSTRALIA

Australia. Commonwealth Schools Commission. ***National policy for the education of girls in Australian schools.*** Woden, A.C.T., 1987. vii, 94 p.

Girls' education in Australia is an integrated report which presents the Commonwealth Schools Commission's recommendations for a national policy for the education of girls. The recommendations are consistent with the Australian Government's long-term commitment to the National Agenda for Women.

The book has made extensive use of existing reports, policy documents, and research findings, both from Australia and elsewhere. In 1986, an Interim Report was published and widely disseminated. Responses from school authorities throughout Australia, as well as submissions and representations from major interest groups, were received and considered in the finalization of the report.

In addition, several reports on the subject from authorities in various related areas were also scrutinized. These are, for example, ***Education Voula*** (1986), a report on the education of girls from non-English speaking backgrounds, and the submission from the National Advisory and Co-ordinating Committee on Multi-cultural Education (NACCME), which draws on reports related to girls' education, notably, ***Girls and Multi-cultural Education: Conference Booklet and Progress Report 1984–1985.***

Extensive school visits to assess the needs and identify priorities with regard to girls' education were also conducted in preparation of ***Girls' Education in Australia.*** This was done in order to avoid over-generalization or over-simplification about what is happening to girls.

The book consists of five chapters: National Policy for the Education of Girls; Framework for Action; Developing a Plan of Action; Implementing the National Policy for the Education of Girls; Reporting and Policy Review, and Formalizing the National Policy for the Education of Girls.

Each chapter presents a detailed discussion on various topics related to girls' education leading to policy recommendations at the end of each chapter. A list of all the recommendations are also given at the end of the book.

The first chapter discusses the development of the National Policy for the Education of Girls, which has been ongoing in Australia for the last decade. All State and Territory public education authorities have issued policy statements related to promoting equal opportunity in education and at counteracting sex-biases in schooling. The policy statements are generally aimed at promoting educational programmes to broaden girls' subject choices and to raise public awareness of the educational effects of attitudes and behaviours based on assumptions about sex differences.

In 1985, a publication entitled ***Education for Girls,*** prepared by the Education Department of Victoria in co-operation with all State and Territory education systems, put forth the need to improve the education of girls, stating:

> ***Most State and Territory education systems have general policies of education which aim to develop the potential of all students and prepare them for a worthwhile post-school life. All systems have stated policies of equal opportunity for girls and boys.***
>
> ***The substance of this report shows that for girls more than boys, these valued aims are not being met.***

The report also documented various issues of in-school and post-school life of boys and girls pointing out the markedly disadvantaged position girls are in as compared to boys. Some of these issues are reflected in, for example, girls' limited access to employment and career education, differential treatment in favour of boys in classrooms, and the existence of sex-stereotyping in education.

In the recommendations of the report it is stated that the " . . . education system continues to support the development of a national policy for the education of girls".

The report discusses the need to examine girls' education in its holistic view. That is, it is necessary to look beyond the relationship between girls' education and employment. It proposes that the schooling of girls be viewed within a broader context of girls' overall educational experience. Evidence abounds indicating that it is necessary to address the needs of girls at all educational levels including pre-school because it is at that early stage of childhood that girls' limited aspirations deriving from gender biases are germinated and reinforced through, for example, sex-stereotyped materials, and differential treatment in favour of boys. Therefore the primary level is the crucial stage where action must be taken to cope with these counter-productive practices.

It is also pointed out that changing or reforming girls' education has a direct effect on boys' education, which will therefore need to be accordingly adjusted. This is so because it is harmful to society for schooling to perpetuate practices which contribute to suppressing the educational, social, economic and political aspirations of girls. On the other hand, the report stresses the importance of realizing that a national policy for the education of girls does not mean that each incidence of differential treatment of girls is to be taken as an act of discrimination against the female sex. Its definition of sex discrimination is as follows:

> ***"Discrimination involves treating the sexes differently in ways which suggest that one is inherently inferior to the other in areas of learning and related activities which can and do effect the distribution of political, economic, and social benefits and differences".*** (p. 16)

In ***Girls' Education in Australia,*** the improvement of girls' education is based on the reality that girls are not a homogeneous group with identical needs, problems, and aspirations, but that they have different social, cultural and religious backgrounds. The needs of disadvantaged groups of girls are discussed in the light of the social reality of other related and compounding problems such as social and cultural prejudices.

Specially discussed are Aboriginal girls, girls from the Torres Straits Islands, and daughters of migrant parents of other ethnic minorities. The report emphasises the importance of cultural sensitivity in responding to the special needs of these girls. It also warns against perpetuating cultural stereotypes about how certain ethnic minorities are assumed to be biased against girls since this type of stereotype is often at odds with reality and may hamper girls' educational progress. The report also discusses the different educational needs of disabled girls, girls who are socio-economically disadvantaged, and those living in remote rural areas.

The purposes of the national policy are listed below:

1. to provide a focus for national concerns relating to the educational needs of all girls in Australian schools;
2. to provide an agreed framework for improving the quality of schooling for girls, through a synthesis of current system policies;
3. to clarify and strengthen existing system and school policies as a basis for further commitments;
4. to provide a means for identifying needs and priorities as a basis for future action;
5. to provide a basis for the development of specific programmes at the national, state/system and school levels;
6. to provide a reference point for policy development, including policies relating to school resource allocation;
7. to encourage the collaborative use of resources;
8. to provide a basis for monitoring and reporting progress.

In recognition of the country's past accomplishments in improving the education of girls, including the raising of their self-confidence and self-respect as well as increasing their participation and enhancing their performance in all subjects, the present policy is to build on past successes.

The substance of the policy framework is discussed in the second chapter. It recommends a set of values and principles on which the national policy for the education of girls is to be based. Some of the values and principles are presented below:

1. gender is not a determinant of capacity to learn;
2. girls and boys should be valued equally in all aspects of schooling;
3. equality of opportunity and outcomes in education for girls and boys may require differential provision, at least for a period of time; and
4. a high-quality education for girls is a mainstream professional responsibility of all educators in all primary and secondary schools and the school system as a whole.

The values and principles are translated into four major priority areas:

1. To raise awareness in schools and the wider community of the educational needs of girls in contemporary society.
2. To ensure that girls and boys have equal access to, and participation in, a school curriculum which prepares them for full and equal participation in economic and social life.
3. To provide a supportive and challenging school environment for learning, where girls and boys are equally valued and their needs equitably addressed.
4. To ensure that school resource allocation policies and practices operate in ways which are consistent with principles of equity and relative need.

Readers are reminded that this type of fundamental reform takes a long time to take effect. Furthermore, since the four areas are closely related, explicit links between them must be established. Finally, a reform of the education for girls will effect the entire Australian society. Public and political support at the highest level is a sine-qua-non. It is necessary to raise public awareness of the importance of the reform and to elicit financial support and budget allocations.

After spelling out principles, objectives and priority areas, the report presents strategies for improving girls' experiences of schooling. The strategies presented are to be considered tentative or illustrative. These strategies are considered in terms of policy objectives with regard to awareness raising, curricular reform, promotion of a supportive school environment, and equity. Each State and Territory will have to develop its own implementation strategies in accordance with respective priorities in keeping with its own varied patterns of responsibility for schooling and relative roles.

The illustrative strategies are presented along with each objective and priority. Detailed actions are chalked out step by step. The actions under each strategy are comprehensive and serve as a useful and realistic basis of consideration for concerned authorities. For example, under the strategy related to curricular reform, actions related to enhancing girls' performances in areas **traditionally** considered to male-dominated, e.g., sports, education and fitness, technology including computer science, mathematics and science, are covered. In addition, reformed curricula should include coverage of areas of knowledge significant to girls' life in a present day changing society, such as organization of work — parenting included — and of shared rights and responsibilities of men and women. Moreover, the strategy includes guidelines for actions designed to enhance girls' understanding of their career potential, particularly as related to subject choices. Last but not least, this strategy presents an action plan aimed at developing curriculum materials to overcome the missing content of women's, including Aboriginal and Torres Straits Islanders', contribution to society.

The report also presents a reporting and reviewing process designed to serve as a tool to monitor progress and disseminate results of implementation strategies in a way which will contribute towards adjusting of the strategies according to changing needs. Furthermore, the reporting and reviewing process will allow regular examination of the promotion of educational values and principles underpinning the national policy. The report provides a detailed five-year reporting cycle developed in the context of the Commonwealth Government's timetable and National Agenda for Women.

The final chapter lays down the necessary steps for the formalization of the National Policy for the Education of Girls. In June 1987, the Commission's advice is to be formally scrutinized by Commonwealth and State Ministers. Similar consideration will also be given by non-government authorities.

After the formal endorsement, there is a need for a final promulgation of authorities' commitment to the national policy.

Once the national policy is endorsed by the government and non-government sector, it can be established for the period 1988–1992 inclusive.

Girls' Education in Australia is a well-documented report based on practical experiences both in and outside Australia. Having considered a vast number of submissions from all concerned agencies and individuals, the end result of the report is comprehensive and realistic.

The report is based on sound principles about the inequality between the sexes which abounds not only in educational institutions but in society at large. It also takes into account the social reality of Australia — a multi-cultural society with its share of girls with special needs.

This is a timely report in light of the increasing awareness in the Asia and the Pacific Region of the need to improve or reform educational provisions for the purpose of enhancing girls' post-school opportunities in all aspects of life. Australia is among the first few countries in the region to have made a collective effort to consolidate a policy on the reform of girls' education which offers specific and detailed practical actions to be taken by all concerned. The report represents a nation's commitment to social reform through its attention to the largest single segment of the disadvantaged population — girls.

Its sensitive treatment of relevant issues related to gender-bias in schooling is praiseworthy. The presentation of details backed by substantive research evidence helps make the arguments put forth in the report very persuasive.

This is, indeed, a publication that is recommended to all interested in and committed to equity in education and the larger goal of improving the status of women in society which, ultimately, means the enhancement of entire human society.

COMPUTERIZED MATHEMATICS EDUCATION

Japan. National Institute for Educational Research (NIER). ***School mathematics: new ideas with computers.*** Tokyo, Section for Educational Co-operation in Asia, NIER, 1987. 66 p.

This monograph is a result of the APEID Regional Training Workshop on School Mathematics and Microcomputers, convened at the National Institute for Educational Research (NIER), Tokyo, Japan, from 23 June to 13 July 1987.

The focus of this monograph is on the application of computers to mathematics education. The monograph is organized into seven chapters.

The introductory chapter presents the objectives of the workshop. It gives a general idea of why computers have gained influence in education and particularly in mathematics teaching and it gives an account of present and future trends of computers in education.

Due to developments in computer use, the relatively lower cost compared to some years ago, and the increasing availability of computers in today's society, the computer has been introduced into educational systems for many purposes, such as for computer awareness, computer literacy, computer studies, teaching, activities outside formal schooling, educational management and planning. In the future, the cost of a computer is predicted to be even lower, which will result in its more common use for educational purposes. The computer will change methodologies in education, as students become more responsible for their own studies. Further, computers will not only function as tools to enhance mathematics education but will also stimulate new curricula for mathematics education.

The second chapter covers mathematics curricula, innovation and change. The introduction of the computer into education has affected learning/teaching of many subject areas,including mathematics. The computer has a number of capabilities, such as assimilation and colourful display; storage and retrieval facilities for large quantities of data; rapid and accurate computation and manipulation; repetition; simulation; fast and accurate figure and graph drawing; instantaneous feedback; control over speed of presentation, and provisions for individualized instruction. These special features enable the enhancement of learning through the use of suitable software.

The workshop explored computer usage in various aspects of mathematics education. Enhancement of mathematics learning/teaching can be made by mobilizing the special features of the computer, depending on the topics, processes, objectives, learning/teaching approaches used and the number of computers available. With computers, some mathematics topics and processes may be de-emphasized. Drills and practice for certain skills become unnecessary. The understanding of concepts and the ability to perform an operation are more important than extensive exercises. The selection of topics and processes have to be reconsidered to make mathematics teaching responsive to the changes arising from the introduction of the computer. The dominant emphases in earlier learning/teaching sequences have to change and emphases now have to be placed on new areas or skills. New abilities that also have to be emphasized in the new curricula should include the making and reading of tables; measuring, reading scales and calculating with precision and accuracy; approximating and estimating; understanding and use of algorithms; formulating equations and problem solving using graphs; functions; analyzing statistical data; understanding and applying basic principles in trigonometry, co-ordinating geometry, calculus, vectors and matrices; modeling (e.g. permutations and combinations); investigating, hypothesizing, and problem-solving. Due to these changes in emphases and teaching/learning approaches, the revision and adjustment of mathematics curricula are required. Class structures and teachers' roles also have to be adjusted.

In the following chapter, the "Mathematics Classroom: New Ideas with Computers", the discussion focuses on how computers can be used in the mathematics classroom to enhance learning. The computer possesses unique attributes such as patience, speed of computation, and the ability to present information in different forms. The computer can assist mathematics teaching in both expository and discovery modes; in concrete, semi-concrete, and abstract activities, and in oral, visual and written practical work. However, in further interactive discussion, the computer still cannot take over the role of the teacher.

In applying computers to mathematics learning and teaching, consideration should be given to interdependent factors such as classroom structure, teaching approaches, types of computers, and software.

Teaching approaches may differ according to how the teacher structures the classroom, the purpose of the lesson, and the number of computers. Computer-assisted learning can be applied to various groups in the classroom, i.e. to individuals, for drills and exercises; to tutorials, for remedial instruction; to talented students; to small groups for similar purposes as for individuals, and to large groups for demonstrations and use of interactive software and other materials which test and refine hypotheses.

The computer-student ratio depends on the availability of computers and software. One computer per two or three students may be a realistic optimum and may lead to effective learning in the mathematics classroom. However, research needs to be done to find out the ideal number for each country's cultural and social setting.

The chapter, **Software; Quality and Development,** is devoted to criteria to assess software; to identify appropriate software for different learning purposes; to the development of software and to the dissemination of information and co-operation in the region. The usefulness of a software package depends on its effectiveness at the individual classroom level and within an educational system; on its convenience and ease of use for both students and teachers; on the availability of teacher notes and student workbooks, and on reasonable cost.

In order to develop software, needs assessments should be undertaken to identify which areas of software are available and can be exchanged or purchased, which are existing but insufficient, and which do not exist and need development. Consequently, decisions need to be made about which software should be developed.

The workshop identified the areas which needed development and suggested the most appropriate learning/teaching styles for the purpose, namely: logic and proof by problem solving; 3-D geometry via concept development; calculus content development and drills and practice; trigonometry concept development; algebra concept development and problem solving, and integrated statistics packages. The areas where more support materials are needed include those of descriptive statistics; geometry (2D); graph plotting, and spreadsheets.

The development of software by teachers and educational authorities should be relevant to curricula and should be pedagogically sound. However, much time is required to develop, publish and distribute. Linking the education and commercial systems for software development is one solution. While the education system invests in the talent of its teachers, commercial enterprises commit resources and money to production and distribution, with an expected financial return.

The evaluation of software can be done in several ways: by individual teachers for their own purposes; by experienced resource persons using a standard format, and as continuing long-term evaluation.

The workshop recommended that co-operative efforts be made to collect and distribute appropriate software programmes. However, questions of compatibility and copyright also have to be considered. Further research on various aspects of learning/teaching mathematics with computers should also be encouraged.

The chapter, **The Teacher: Development and Support**, reports on the workshop's special consideration of teachers, who form the key to successful implementation of curriculum innovations, complementing innovative materials and technology. In order to plan for teacher development and support, it is necessary to collect information about teachers, particularly their background and ability to use computers effectively. Teachers should be trained and experienced in the use of the computer in teaching mathematics; in how to incorporate the computer into existing courses; in manipulating the authorizing systems, and even in creating teacher-made programmes which correspond to their own needs as teachers. The latter may require long-term training and expertise or it may be achieved through co-operation with curriculum developers and specialists in programming. In addition, provisions should be made to support teachers in making choices and assessing software for appropriate use, with maintenance services, and with technical support for further development.

Other issues of general interest were raised in the workshop, such as the allocation of resources in relation to the optimal number and placement of computers; their compatibility and networking possibilities; equity opportunity to access computers, and the need for co-operation and co-ordination.

The last chapter provides a variety of recommendations. A comprehensive summary of country experiences of computer usage is provided in an appendix.

This monograph is a concise and thoughtful introduction to the use of computers in teaching mathematics. It illustrates the ways in which the computer can assist the learning/teaching of mathematics; the ways in which the software needed can be developed and identified, and the interrelationships of the concerned factors in the application of computers into mathematics learning/teaching. It is also a guide that can be useful in the design of implementation and follow-up activities.

The Library and Documentation Service of the Unesco Principal Regional Office for Asia and the Pacific, Bangkok continues to build up its documentation resources, which include a major collection of publications on education in the Asia and Pacific region. The publications reviewed and annotated and printed in this issue are some interesting documents recently received. The Unesco Principal Regional Office will appreciate being notified of documents from Asia and the Pacific related to education in the region, published within the past few years, which have not been included in its bibliograhies. Better still, readers may wish to send the actual documents to the Library and Documentation Service, Unesco Principal Regional Office for Asia and the Pacific, P.O. Box 967, Prakanong, Bangkok 10110, Thailand.

ANNOTATIONS OF ASIA/PACIFIC DOCUMENTS

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ASIA/PACIFIC

International Training Institute, Sydney. ***Distance education in developing countries***, edited by Jill McRae. Canberra, ACT., Australian Development Assistance Bureau, Department of Foreign Affairs, 1987. x, 183 p. (International Perspectives, no. 11).

This document contains selected papers which were prepared by members of three distance education courses run at the International Training Institute in 1984, 1985 and 1986. The courses were of three months duration, attracting some 42 participants from Asia-Pacific, African and Latin American countries.

The papers are valuable for the light they shed on programmes about which little has otherwise been written, and little is known outside the countries where the programmes presently operate. As a collection, the papers are significant for their scope rather than their depth. They were compiled by practitioners whose concern is to share their knowledge with distance educators from other developing countries, and in so doing facilitate understanding of the problems which each country must face.

The problems and issues summarized are most commonplace and may be of benefit to educators in developing countries who are currently considering initiating distance education programmes. No attempt has been made to offer solutions; rather, the intention here has been to sound a note of caution regarding the aspects of management and organization which are most likely to present administrators with problems. Although such problems are dealt with in the context of developing countries, educators everywhere concerned with distance education will recognize many of the issues as ones which may surface in any country, regardless of its stage of development.

Regional Symposium on Long-term Planning in Higher Education, Dhaka, 21-30 September 1986. ***Report of the symposium organized jointly by the Unesco Principal Regional Office for Asia and the Pacific, the Bangladesh Ministry of Education, and the Bangladesh University Grants Commission.*** Bangkok, Unesco, 1988. 53 p. (Regional Co-operative Programme in Higher Education for Development in Asia and the Pacific).

Long-term planning in developing countries runs into several difficulties, among which are the inapplicability of western models, the lack of trained personnel, the lack of appreciation of the value of long-term planning, political instability, discontinuity, and the absence of valid and reliable information to serve as a basis for planning. Despite these handicaps, some countries of the Asia and Pacific region have taken up the planning of higher education from a long-term perspective.

The first chapter explores some fundamental issues concerning the rationale for the objectives of long-term planning. The second chapter considers the status of, and broad trends in, long-term planning of higher education in the region. Chapter Three provides a regional overview of recent planning approaches and experiences. Chapter Four explores the relevance and application of particular approaches, methodologies and techniques to the task of long-term planning in higher education. Organizational and management issues related to long-term planning of higher education are considered in the fifth chapter. The last chapter presents conclusions related to follow-up activities by countries in the region. These are based on three assumptions agreed to by the participants: that higher education can contribute significantly to national development and economic and social change; that expenditure on higher education should be treated as investment in human resource development, and that effective linkages must operate between higher education on the one hand and other levels of education and other sectors of the economy on the other.

Unesco. Principal Regional Office for Asia and the Pacific. ***Content of general education in relation to occupational training; country experiences.*** Bangkok, 1988. 61 p. (Asia and the Pacific Programme of Educational Innovation for Development).

This book is a compilation of nine country studies from Australia, China, India, Malaysia, Pakistan, Philippines, the Republic of Korea, Vietnam, Thailand and Turkey on the relevance of the content of their general education in relation to occupational training and retraining. The studies show a general philosophy pervading all programmes: whether conducted in school, out of school or in training centres, occupational training programmes combine academic and vocational education. The worker must not only be physically skilled and able to do the work; he/she must also possess the intellectual concepts and skills deemed necessary for higher level outputs. Planning, analysis, decision making, assessment and creativity are all required in the new industrial and business environments. In most countries, the vocational training components of general education programmes are broad and flexible enough to meet the professional world's changing requirements at the exponential rate of new science and technology.

In all countries, programmes of education have been the object of studies to determine a connection with continuing education, i.e. the continued learning that a person engages in to succeed in living in his modern complex world. A general trend seems to be a growing focus on the individual personality development of the worker.

Trends in the manpower needs of the different countries show various levels of development. In the agricultural sector, where most jobs are, there is a wide difference in educational levels. There is also a great variation in the level of technological development between the nine countries participating in the Study Group Meeting.

Unesco Regional Study Group Meeting on Compilation of Reference Materials and Training Packages including Distance Learning Materials, Seoul, 27 October - 5 November 1987. ***Sharing innovative strategies for self-learning materials: a monograph.*** Bangkok, Unesco, 1988. 53 p. (Asia and the Pacific Programme of Educational Innovation for Development).

The Regional Study Group Meeting was organized by the Unesco/PROAP under the APEID, in collaboration with the Korean Educational Development Institute (KEDI). It was attended by personnel involved with distance education from India, New Zealand, Pakistan, Republic of Korea, Western Samoa and Vanuatu.

This age has seen an explosion of information technology, such as satellite communications, telelinks and the electronic transmission of texts and images, and teachers have had to develop their teaching methods according to these new teaching-learning technologies.

This publication takes note of the significant development of resource materials produced by countries in the region, and provides an opportunity for such development to be shared. The source materials for this book on distance education include such resource materials as well as reports based on the experience gathered by the different countries. The materials compiled also contain suggestions for the future development of innovative training materials.

Unesco Regional Workshop on Teacher Education, Hobart, 4-10 December 1986. ***Teacher education: issues, needs and plans for action,*** organized by ACEID/Unesco Regional Office for Education in Asia and the Pacific in collaboration with the Centre of Education, University of Tasmania. Bangkok, Unesco, 1987. 88 p. (Asia and the Pacific Programme of Educational Innovation for Development).

This publication is a report of a regional workshop attended by personnel responsible for, and involved with, the development of teacher education in 16 countries, namely, Australia, China, India, Indonesia, Japan, Malaysia, the Maldives, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, the Republic of Korea, Samoa, Sri Lanka and Thailand.

Each participant presented a summary of current innovations in, and issues of, teacher education in their own countries which should be the focus of the remainder of the workshop.

This publication takes stock of the progress that has been made in countries in the region in widening and developing teacher education. It also considers directions for future development which will ensure the development required in education. Finally, the publication develops a regional plan of action and makes suggestions for future actions at national and inter-country levels for the fourth cycle of APEID.

United Nations. Economic and Social Commission for Asia and the Pacific. **Directory of women experts in Asia and the Pacific.** Bangkok, ESCAP, 1987. xi, 360 p.

This directory of women experts in Asia and the Pacific provides organizations and individuals in the public and private sectors with information regarding the availability of women experts and professionals in various fields of specialization in order to stimulate greater participation of women in the development processes.

This is the second of a series of directories prepared by the Women's International Network for Asia and the Pacific (WINAP). The Directory of National Focal Points for the Advancement of Women in Asia and the Pacific was recently published. Other planned directories will focus on national research institutions on women and non-governmental organizations aimed at women. ESCAP will continue to update and expand this directory to include women experts from other regions with specializations in the Asian and Pacific region.

United Nations. Economic and Social Commission for Asia and the Pacific. **Handbook on funding the training resources for disability-related services in Asia and the Pacific**, prepared by Lesley Hall. Bangkok, ESCAP, 1987. 167 p. (looseleaf)

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) has published the Handbook on Funding and Training Resources for Disability-Related Services in order to provide information on organizations and resources available to assist concerned personnel at the grassroots level. It is based on the premise that knowing where to obtain funding and how to get training is a necessary step towards the establishment and development of viable disability prevention and rehabilitation programmes.

The information contained has been gathered from a wide variety of sources. Questionnaires were distributed to approximately 500 organizations world-wide. Information was also extracted from periodicals, articles and other publications as well as from unpublished mailing lists and directories compiled by major organizations concerned with disabled people.

Some 300 million people with disabilities live in the Asian and Pacific region. This number includes the intellectually disabled, the visually impaired, hearing impaired, pyscho-socially disabled and the physically disabled. Their disabilities have many causes, including malnutrition, diseases, traffic accidents, work accidents, accidents in the home, drug abuse, poor health care, environmental pollution and war. Many organizations throughout the world offer financial and in-kind assistance to disabled people. Many organizations fund projects and programmes that are designed to enable disabled people to participate fully in the social and economic life of their communities. Some offer training courses to give people the skills with which to provide services and execute programmes that will prevent others from becoming disabled or rehabilitate those who are disabled. The training and funding organizations include governmental bodies, non-governmental organizations, intergovernmental organizations, and the agencies and bodies of the United Nations system. In one way or another these organizations are assisting millions of disabled people throughout the world.

The purpose of the handbook is also to promote the sharing of financial and training assistance, including Technical Co-operation among Developing Countries (TCDC), in the region.

United Nations. Economic and Social Commission for Asia and the Pacific. ***Women's economic participation in Asia and the Pacific.*** Bangkok, 1987. xix, 367 p.

This study provides a basis for policy changes that would enable women to play a role in the economy commensurate with their capabilities and aspirations. The study has been conceived and administered jointly by the Social Development Division of ESCAP, and the National Centre for Development Studies at the Australian National University.

The authors of this volume have focused on two indicators of women's economic status: women's participation rate in the modern economy, and women's earnings relative to men's earnings. Employment in the modern sector is usually considered to be of higher value than participation in the traditional economy, because the modern sector requires a higher level of formal education. In this volume, countries at similar levels of economic development have been grouped together to identify common issues and problems. Five categories have been identified, based on economic structure, development and economic policies: (1) Pacific Island economies; (2) Countries with a large agricultural sector; (3) Newly industrialized countries; (4) Newly industrialized economies; and (5) Industrialized countries.

AUSTRALIA

Australia. Commonwealth Schools Commission. ***National policy for the education of girls in Australian schools: the Commonwealth's contribution.*** Canberra, ACT., 1987. iv, 13 p.

This report contains advice to the Commonwealth Minister for Education on the contribution of the Australian Commonwealth Government in meeting the educational needs of girls in Australian schools. The Commission's advice is also put forward in the context of the Government's support for the development of the National Policy for the Education of Girls, as part of its commitment to the National Agenda for Women and its responsibilities as the national government under the United Nations Convention for the Elimination for All Forms of Discrimination Against Women.

The comprehensive nature of the advice reflects the fact that this is the first formal national policy to be developed in relation to primary and secondary schooling. The occasion will enable all authorities to draw up their own plans of action, including collaborative strategies, within a common policy framework. The Commission's advice regarding the specific contribution of the Commonwealth to achievement of the objectives of the National Policy for the Education of Girls is the focus of the report.

Special educational programmes may also be required in order to address the educational effects of social, economic, cultural and individual differences and inequities on particular groups. Such initiatives are currently supported in schools by system authorities and the Commonwealth.

Commonwealth specific purpose programmes for schools improve the quality of schooling for substantial numbers of young people, particularly the most disadvantaged. They are a visible sign of the Commonwealth's commitment to government and non-government schools, and of its educational priorities.

BANGLADESH

Bangladesh. Ministry of Education. Bangladesh Bureau of Educational Information and Statustics. ***Education system of Bangladesh; certificates, diplomas, and degrees awarded at all levels, types and disciplines.*** Dhaka, BANBEIS, 1987. 31 p. mimeo.

This short write-up is designed to present the educational system of Bangladesh from primary to university level, including all disciplines and types of education. Certificates, diplomas and degrees at all levels are briefly described, along with the necessary prerequisites.

The report will enable readers to familiarize themselves with the educational system in Bangladesh. The primary stage comprises both pre-primary and primary education. The secondary stage includes junior secondary, secondary (intermediate high schools) and higher secondary education (intermediate colleges and intermediate sections of degree colleges). The secondary level comprises also technical education in certificate, diploma and degree courses.

Parallel to this system is madrasah education, which offers traditional Islamic instruction to Muslim boys and girls (primary, secondary, higher secondary, bachelor and master degrees).

Many professional institutes offer professional certificates, diplomas and degrees in different types of disciplines. There are also different levels of teacher education leading to careers in education.

Bangladesh. Ministry of Education. Directorate of Primary Education. ***Second Primary Education Project (1985-1990) and Development Programme and Plan-of-Action FY 1988-1989.*** Dhaka, 1988. 72 p.

The universalization of primary education is one of the major goals of the Government of Bangladesh. The revised scheme for the Introduction of Universal Primary Education in Bangladesh (National), also known as the Second Primary Education Project (SPEP) 1985-1990, is now being implemented by the Ministry of Education through the Directorate of Primary Education, National Curriculum and Textbook Board (NCTB), National Institute of Educational Administration, Extension and Research (NIEAER), Facility Department (FD), and the **upazila parishads** (sub-district offices). This is an IDA-funded project with SIDA, UNICEF and UNDP helping as co-financiers. Unesco is implementing the technical assistance component of the project.

The interim goals for UPE by 1990 are: (a) to increase primary school enrolment (particularly of girls), from the present 60 per cent to about 70 per cent of the 6-10 age group; (b) to ensure that a great majority of those who enroll in 1985 complete the five year primary cycle; and (c) to improve internal efficiency of primary schools through better management, effective supervision and improved instruction.

The operational planning of major components of the project is done centrally. However, the macro-plan and schedule of activities for implementation are characterized by their **micro-level** origin and focus, especially after decentralization of management and administration of primary education to the **upazilas** (sub-districts).

The annual UPE development programme and plan-of-action for the fiscal year 1988-1989 has been prepared jointly by the Planning and Training Division of the Directorate of Primary Education, the Facilities Department and the Curriculum and Textbook Wing of the NCTB and NIEAER.

BHUTAN

Unesco. ***Bhutan: National Institute of Education: findings and recommendations.*** Paris, Unesco/UNDP, 1987. 22 p. mimeo.

This report was prepared for the Government of the Kingdom of Bhutan by Unesco, acting as Executing Agency for the United Nations Development Programme (UNDP).

It contains project findings and recommendations for the establishment of a National Institute of Education (NTE) in Samchi, Bhutan. The objectives of the project are to establish three departments within the National Institute of Education, namely: the Department of Secondary Teacher Training; the Department of Primary Teacher Training; and the In-service Training Department.

This report provides information about the way to achieve the project and about syllabi, equipment, libraries, science laboratories, personnel and fellowships. The Appendix gives the names of Unesco experts and consultants between 1981 and 1986 as well as information about counterpart staff, fellowships, student enrolment, graduate output, programmes of study, and a list of major items of equipment provided by UNDP and the Government.

Unesco. Regional Office for Education in Asia and the Pacific. ***Primary school buildings: standards, norms and design,*** prepared for the Department of Education, Royal Government of Bhutan, by Jean de Spiegeleer. Bangkok, 1986. 1 v. (various paging).

This report on primary school buildings uncovers a wide spectrum of planning and design problems. It emphasizes that changing patterns of education must be considered. Whilst traditional teacher-centric methods of learning will continue in some schools, new methods of teacher-training are gradually being adopted in others which require different types of school buildings and facilities.

This booklet is a first attempt to establish primary school building standards and norms for Bhutan. While covering most aspects of the design of primary education institutions including buildings, site development and furniture, it is not complete, however, and will thus need to be updated from time to time.

Primary School Buildings is a continuation of the report, ***Expanding Physical Facilities for Primary Education in Bhutan***, and should be regarded as a check-list and a source of reference. It is intended to provide norms and standards, design samples, facility requirements and ways of estimating building costs. Educational administrators will be in a position to make best use of the design services and obtain the sort of building most suited to their educational needs. Because of limited material and financial resources, cost limits impose an exceedingly stringent discipline on both the designer and the educationist.

CHINA

China. State Education Commission. Department of Secondary Education. ***Secondary education in China.*** Beijing, 1986. 120 p. illus. (Text in Chinese and English).

This book deals with different aspects of secondary education in China. Secondary education in China is provided in junior middle schools and senior middle schools. Junior middle schools place an emphasis on basic subjects and operate according to the nine-year programme of compulsory education prescribed by the State. Senior middle schools administer higher secondary education in technical schools, normal schools and a variety of other senior vocational middle schools.

Emphasis in the book is on the pursuit of higher quality education, work-study programmes and further restructuring of secondary education. Classroom teaching and extracurricular activities are portrayed in many illustrations.

Different subjects in middle school curricula are also elaborated on, such as moral education, physical education and health care, art education and foreign languages.

Jin, Daqin. ***Housing, cultural and educational facilities in rural areas in China,*** by Jin Daqin, assisted by Ren Shiying [and others]; photographs by Wang Heming. Feng Hua, advisor. Bangkok, Unesco, 1988. 69 p. illus. (Educational buildings occasional paper no. 5)

This monograph presents a picture of the countryside in China. School facilities are considered in the context of village housing and cultural facilities. Two villages and one small town, namely, Alad, Shigang and Xinta, were chosen as examples of sites of planned development in rural areas. To ensure the sound development of villages and towns, the government implemented a series of policies of: (1) tapping the full potential of both individuals and collectives in building large-scale rural housing; (2) strict control of arable land and rational use of land for development; (3) full utilization of local materials and promotion of substitution wood with reinforced concrete, as well as the frugal use of wood; (4) fund-raising from different sources to contribute to housing; (5) pursuit of town development as a strategic keypoint to guide peasants "to leave the field, not the countryside"; and (6) strengthening the education and training of personnel involved in rural development.

Trends in housing, cultural and educational facilities are presented with drawing plans and pictures.

INDIA

Ghosh, Ratna; Zachariah, Mathew, eds. ***Education and the process of change.*** New Delhi, Sage Publications, 1987. 301 p.

This book consists of a collection of essays written by several educators from the United States, Canada and India who participated in a conference sponsored by the Canadian International Development Agency, the Graduate Faculty of McGill University and the Delhi Office of the Shastri Indo-Canadian Institute.

This collection of essays takes a look at the role played by education in the reconstruction and revitalization of Indian society over the past four decades. It examines four broad themes: (1) socio-cultural and political constraints in the field of education; (2) economic, scientific and technological policies as they relate to education; (3) strategies to overcome these constraints, and (4) social change and cultural revitalization.

The first theme describes the system of education in India and analyses its tendency to produce elites rather than introduce change. It also deals with the problems of university administration, the investments made in the expansion of education in terms of bridging the gap between the privileged and disadvantaged sections of society, and the implications of the expansion of education in West Bengal in the context of that State's peculiar social and political environment. The articles relating to the second theme analyse investment in education and the rates of return to education, the role of education in economic growth and income distribution, and the decline in the quality of education in India. The third theme analyses the relation between education and fertility; child labour and the educational status of working children; women's education and prospects for enhancement of women's status, and people's contribution to social change in India through non-formal education. The last theme covers the issues of language and religion in Indian education.

Education and the Process of Change focuses on the growing interest in indigenous education. It can serve as a textbook or supplementary reader to those interested in the fields of sociology, education and development studies.

India. National Council of Educational Research and Training. Department of Education in Science and Mathematics. ***Open competence in science for all; report of the Advanced Level National Workshop on Continuing Education of Science Teachers and Teacher Educators to Develop Open Competence,*** New Delhi, 26 November - 3 December 1986. New Delhi, 1987. 67 p. mimeo

The main objectives of the Workshop were: (1) to analyse the implications of the concept of open competence for training of science teachers and teacher-educators in the context of ***Science for All;*** (2) to examine the various suggestions made by the Technical Working Group Meeting on Continuing Education of Science Teachers and Teacher-Educators for Developing Open Competence, held in 1984 in the Philippines, and to assess their implementability within the existing framework of the Indian pre-service and in-service science teachers training programmes; and (3) to work out sample courses such as the ***History and philosophy of science*** and the ***Interaction of science, technology and society*** for inclusion in science teachers training programmes.

The first two chapters of the report contain the introduction and papers presented at the workshop. Chapter Three deals with exemplary materials which help in the acquisition of specific competencies. Then follow the **training courses** of (i) History and philosophy of science; and (ii) Interaction of science, technology and society. The report concludes with an appraisal of earlier suggestions related to the development of open competence and annexes related to the procedure of the workshop.

India. National Council of Educational Research and Training. Socially Useful Productive Work Unit/Vocationalization of Education Unit. ***National study on work experience in general education in India; a review of policies on work orientation education,*** by Arun K. Mishra, A.K. Sacheti, P. Raizada, C.K. Misra and D.R. Dua. New Delhi, NCERT., 1984. 115 p. mimeo.

The study which consists of the ***Review of policies on work oriented education*** and the two directories on ***Projects*** and ***Institutions*** were prepared by the Socially Useful Productive Work and Vocationalization of Education Unit of NCERT at the request of the Unesco Regional Office of Education for Asia and Pacific, Bangkok under its Asian and Pacific Programmes of Educational Innovations for Development (APEID).

The ***Review of policies on work oriented education*** presents an analysis of the policies' objectives, structure, management, content, evaluation and database. It is the first of its kind to present a systematic account of various programmes where work and education are integrated in formal and non-formal systems of education, conducted in India under different names, such as crafts, work experience, Socially Useful Productive Work (SUPW), etc. This might serve as useful reference material for teachers and educators in this field both in India and abroad.

India. International Conference on New Technologies in Higher Education, New Delhi, 28-29 November 1985. ***New technologies in higher education,*** ed. by S.Y. Shah. New Delhi, Association of Indian Universities, 1986. 119 p.

The present volume is the outcome of the International Conference on New Technologies in Higher Education, held in New Delhi on 28-29 November 1985.

The consensus at the Conference was to support the modification and diversification of curricula and the integration of new communication technologies in the teaching-learning process in higher education. Emphasis was put on judging the availability and suitability of various media. Taking off from the initiative of UGG in utilizing satellite television for relaying educational programmes, the members of the Conference outlined the need to select and produce programmes while keeping in mind factors like comprehensibility and accessibility. The need to undertake orientation programmes for teachers and students was examined. Issues relating to the economy of new technologies were discussed and the relationship between technology and the social environment was also traced. The participants voiced the need for a debate on suitable technology to be adopted and adapted for local use with the active participation of universities and other institutions of higher learning in India.

Mellor, Warren, ed. ***Micro-level educational planning and management; case studies from India,*** by Satya Bhushan, Brahm Prakash, V.A. Kalpande, Yash Aggarwal, Pramila Menon. Bangkok, Unesco, 1987. 104 p.

This book is one of a series of occasional papers in educational planning, management and statistics published by the Unesco Principal Regional Office for Asia and the Pacific.

It contains three case studies of decentralization of educational planning in India, related to the experiences in Jammu and Kashmir, Maharashtra, and the Project ARISE (Action Research on Implementation Strategies in Education) in Panhana, Haryana. The case studies show different aspects of decentralized administration and plan implementation, including their strengths and weaknesses.

In the search for improved administrative efficiency in the implementation of educational plans, many proposals have been made for the increased devolution of powers to the micro and local levels, whether by delegation, deconcentration or decentralization. Decentralization in general encourages a greater responsiveness to local needs and a surer sense of the equitable distribution of resources amontst disadvantaged groups. The problem remains as to what constitutes the optimal balance of centralized efficiency on the one hand, and decentralized responsiveness on the other.

For the Fifth Five Year Plan, the Indian Planning Commission recommended **democratic decentralization** to assist in removing disparities at the local level. Priorities for this were to be adult literacy and Universal Elementary Education (UEE). The need to adopt a multi-level approach in planning at the State and sub-State was emphasized. This concept was basically directed towards providing a plan of action at the sub-State levels, which would take into consideration the unique nature of different areas as regards levels of development, physio-geographical conditions, resource potential and the coverage and quality of economic and social services. The approach also entailed emphasizing the involvement of popular representatives in the process of planned development at the sub-State levels.

Sapra, C.L.; Aggarwal, Yash. ***Education in India; some critical issues,*** New Delhi, National Book Organization, 1987. 170 p.

The monograph describes education as a key element in the development and utilization of human resources and development itself. In the Indian context, in spite of significant developments during the last three decades, education is still characterized by many inadequacies.

The volume focuses on three critical issues: value education; education and social justice, and education and employment linkages.

The papers included in this volume provide the rationale for a new approach to educational policy-making and planning which is relevant to the immediate and long-term needs of a developing country. The book is particularly addressed to development planners and educationists as it highlights some development parametres that have a significant influence on the development of human resources.

Unesco. Regional Office for Education in Asia and the Pacific. ***Youth profile: India,*** prepared by RUSHSAP with inputs from Kaushal K. Siddh and Surendra K. Gupta. Bangkok, 1987. 79 p. (RUSHSAP series on occasional monographs and papers, no. 18).

In today's India (1981 Census) people in the youth category number almost 122 million, or 18.24 per cent of the entire population. This category by the year 2000 will comprise approximately 180 million. In line with the settlement pattern of the overall population, most of the youth (77 per cent) live in rural areas and devote 80 per cent of their time to agriculture-related occupations.

Migration is an important phenomenon, affecting nearly 30 per cent of the population, but in fact only a small fraction is seeking settlement in urban areas.

Three major aspects covered in this study are: (1) social profile indicators, namely, demographic composition; educational attainment; location in the economy; health, and social behaviour; (2) indicators related to the involvement of youth in development and the monitoring and evaluation of programmes for youth development; and (3) attitude profile indicators.

As with **education**, the literacy rate in India stood at 36 per cent in 1981. In 1951 it was as low as 16.7 per cent. However, because of population growth, the total number of illiterates is increasing, not decreasing. If this trend is not speeded up, it may take decades to eradicate illiteracy. In 1971, of the 209.5 million illiterates, 47 million (22.3 per cent) were young people. Another matter of concern is the persisting disparity in access to education for women. It is only at the pre-primary level that we can find the sex ratio mirrored in school enrolment data. At the higher levels, only one out of four students is female. This proportion will further drop to one out of five at university level.

Information related to **economic activity** shows that while the total population increased by about 24.75 per cent between 1971 and 1981, the working population grew by 27.7 per cent in the same period. Youth workers represented almost 23 per cent of total workers in 1981. Most of them work in rural areas and, of the total, around 80 per cent were engaged in agricultural activities. It has also been observed that rural youth have a higher participation in the economic sector than their urban counterparts.

Despite the paucity of data, the report investigates some areas of **health** and **deviant behaviour** and pays particular attention to juvenile deliquency, drug addiction and prostitution, which are some of Indian youth's most serious problems today.

JAPAN

Kaneko, Motohisa. ***Enrolment expansion in post-war Japan.*** Hiroshima, Japan, Research Institute for Higher Education, Hiroshima University, 1981. 111 p. (International Publication Series no. 1).

After World War II, the Japanese educational system was transformed into a four-tier system consisting of 6 years of primary school, 3 years of junior high school, 3 years of senior high school and 2 years of junior-college or 4 years of college. In this 6-3-3-4(2) system, enrolment in senior high school (at age 15 or over) and in college or junior-college (at age 18 or over) is not compulsory. With the advance of postwar economic growth, enrolment at these levels of education grew at an unprecedented rate. The book analyses this enrolment expansion and its relation to economic development.

LAO PDR

United Nations Development Programme, Vientiane. ***Report on development co-operation: Lao P.D.R.*** Vientiane, 1987. 10, 113 p.

The purpose of this report on development assistance to the Lao PDR, which is published annually by the UNDP office in Vientiane, is to provide an overview of the development activities currently underway and to facilitate increased co-ordination of external assistance in the future. The information must be considered broadly only since it is not possible to have detailed information on all external assistance to the country.

This report is divided into two chapters. The first provides an overview of the country's development context in 1986 as well as a brief profile of all known external development assistance to the Lao PDR in 1986.

The second provides a list of both technical and capital assistance projects and activities financed from external sources by sector, i.e. education, agriculture, industry, health, etc. The technical assistance section lists the source of financing, the project duration, the amount disbursed in 1986 (and, when available, that foreseen for future years), the nature of the assistance, and the number of man-months of expertise. The capital assistance section lists the source and the date (when available) of the loan/credit, the amount committed and disbursed during 1986, and selected pertinent details about the assistance, such as the terms of the loan/credit, the government agency involved and the location of the project, etc.

MALAYSIA

Rahimah Haji Ahmad; Marimuthu, T.; Norjannah Ismail. ***Study on the interface of education with employment and leisure in the context of alternative futures: Malaysia,*** submitted to the Ministry of Education, Malaysia, Kuala Lumpur and Unesco, Bangkok. Kuala Lumpur, the Authors, 1987. 102 p.

The overall objective of education in Malaysia, as spelt out in the Fifth Malaysia Plan (1986), is to promote national unity. The role of education is to produce individuals who are trained and skilled in science and technology as well as in management and management-related fields so as to meet the manpower and social needs of the country.

The educational system is expected to produce innovative and skilled individuals who are willing to work hard and are able to be engaged in productive employment. The system is also expected to increase employment opportunities for the lower income groups.

This study is commissioned to probe further into the relationship between education, employment, work and leisure in Malaysian society within the context of alternative futures.

The report attempts to describe three scenarios, namely: optimistic, pessimistic and most realistic.

The views expressed by 35 highly influential and knowledgeable individuals indicate changes in the educational system within the next two decades, and hence, corresponding changes in the interface of education with employment, work and leisure. They state that education is not only to train manpower for specific jobs but to provide general skills so that adaptability and readiness for work are instilled.

MALDIVES

Luthfi, Mohamed; Zubair, Habeeba. ***Innovation in primary school construction: Maldives community schools.*** Bangkok, Unesco, 1987. 35 p. illus. (Educational Building Report 12).

The report gives background information on government administration and historical perspectives on educational planning, particularly concerning primary education in the Maldives. There is information on the current educational system and the story of how a community school on an island was established. The school building project was an international co-operation between Unesco, UNICEF and the local government. The need for school buildings was identified by Unesco, Paris while UNICEF raised funds to pay for the construction and Unesco, Bangkok prepared the plans and trained the staff. UNICEF covered the cost of the materials and the skilled labourers, while the communities contributed their time and effort to carry the sand and coral to the sites and the Maldives Government assured the construction of the buildings. The report provides the architectural drawings and organizational charts of the government authorities.

NEPAL

Shrestha, Kedar Nath. ***On primary education in Nepal.*** Kathmandu, Primary Materials Unit, Ministry of Education and Culture, 1988. 115 p.

In Nepal, primary schooling is free, and the government provides textbooks free of charge to all children in primary schools.

A massive programme to enroll all primary school-age children within the turn of this century has already been prepared. The highlightsof the **Basic Needs Programme in Primary Education** include: (a) the establishment and relocation of primary schools so that all primary children may find schools at walking distance; (b) the free distribution of textbooks to all children in primary schools; (c) free uniforms and scholarships for girl students in selected areas to raise girls' enrolment; (d) the establishment of an effective inspection system; and (e) the provision of 150-hour training to all primary school teachers. These steps seek to achieve both the qualitative and quantitative development of primary education within a time frame of twelve years.

The book deals extensively with relevance and efficiency in primary education; the school cluster organization of primary schools; primary school curricula; primary teacher training; relevant primary school curricula for rural areas; instructional material and teacher training to promote enrolment of girls in primary schools; universalization of primary education by the year 2000; important aspects of education of children, and the basic needs of education. Charts and statistical tables are included to enhance the presentation.

Shrestha, Kedar Nath; Maskey, Biswa Keshar. ***Education for rural development; a critical analysis of educational programmes with a focus on rural development.*** Lalitpur, Curriculum Textbook and Supervision Development Centre, Ministry of Education and Culture, 1987. 100 p.

The purpose of this study are to (a) analyse the impact of national education projects on the socio-economic development of rural areas, and (b) evaluate the success of innovative national experiments undertaken with the objective of increasing the relevance of general education and the teaching of science and technology in rural society.

The selected projects emphasize different means of developing and raising the quality of life. Thus the **Integrated Rural Development Project (IRDP)** is built around improved communication links. It emphasizes the integration of development activities in the area of agriculture, education, health, etc. in villages which lie around the newly constructed road that connects the villages with Kathmandu. The **Koshi Hill Area Development Project (KHARDEP)** focuses on the improvement of agricultural productivity with an emphasis on the quality of health and education services. The **Education for Rural Development Project** in the Seti Zone attempts to make curricula relevant to rural life. Community participation is another emphasis of this project. The **Lahachowk Project** is an experiment designed to investigate the school commumity. **Equal Access of Girls in Education** is another educational project which strives to improve the quality and quantity of participation of women in development activities. The **Technical School Programme** is an innovative project which attempts to train lower-level technicians locally in remote areas so as to ensure the availability of technicians required for rural development.

The chapter on **Reflections** describes the problem encountered in carrying out the projects, such as structural weaknesses, narrow targets, etc.

The chapter also lists conditions necessary for successful implementation of the projects, namely: (1) long-term viability of projects; (2) elimination of structural weaknesses; and (3) participatory development: decentralization of decision-making powers.

PAKISTAN

Bukhari, Maqsud Alam. ***Demand and supply of primary and middle school female teachers in Pakistan for the period 1981-1990,*** sponsored by the Ministry of Education. 2nd rev. ed. Islamabad, Allama Iqbal Open University, 1986. 186 p.

The study attempts to analyse prevalent data regarding primary and middle school female teachers in Pakistan and makes projections of the demand and supply of female teachers during the period 1981-1982. It is part of a research component of the Third Education Project of the Ministry of Education, Government of Pakistan. The objectives of the study are: (1) to make projections of the demand for primary and middle level female teachers in Pakistan for the years 1981-1982 to 1990-1991; (2) to determine the implications of training female teachers for primary and middle level education in Pakistan in the period 1981-1982 to 1990-1991; and (3) to be able to meet the demand for teachers each year as projected.

The findings of this study may assist planners and educators at federal and provincial levels to better plan elementary education for girls in Pakistan. They might also be of interest to planners in other countries in the region.

The whole work is divided into four separate research studies dividing Pakistan into four geographical areas: the Punjab, N.W.F.P., Sind and Baluchistan.

Besides the province-wise recommendations given at the end of each section, there are also general recommendations: (1) to provide ways to attract and persuade girls (especially in NWFP and Baluchistan) to attend school with the consent of their parents; (2) to establish some crash-courses to train the required number of teachers need; and (3) to urge the provincial government to co-ordinate planning for teacher preparation with Allama Iqbal Open University.

Pakistan. Ministry of Education. Curriculum Wing. ***An appraisal study of re-orientation and reform of secondary education in Pakistan.*** Islamabad, 1988. 105 p. mimeo.

This book is the result of a national study on the re-orientation and reform of secondary education in Pakistan undertaken at the initiative of Unesco/PROAP, Bangkok, under the Asia and the Pacific Programme of Educational Innovation for Development (APEID). It provides information on the following: (a) a background of secondary education, including the system of education, management and related educational statistics; (b) issues and problems confronting secondary education in Pakistan; (c) an appraisal of innovations/reforms in secondary education; and (d) future prospects/programmes for improvement of secondary education.

A chapter is devoted to the subject of **innovation in secondary education,** which gives detailed descriptions of innovations undertaken to improve secondary education at the federal as well as the state level, and of innovations in methods of teaching different subject matters in secondary education.

PHILIPPINES

Toh, Swee-Hin; Floresca-Cawagas, Virginia. ***Peace education; a framework for the Philippines.*** Quezon City, Phoenix Publishing House, 1987. 94 p.

Peace education: a framework for the Philippines stresses the important role of education in promoting peace and justice in the Philippines.

Education for peace, an issue being echoed by countries the world over, extends across personal, national, or global levels. It affects everyone – the young and the elderly, the rich and the poor. This book analyses and explores vital issues affecting the citizens of the world, such as: militarization, structural violence, human rights, cultural solidarity, environmental care and personal peace.

The book introduces and clarifies what a peace curriculum is, suggesting strategies for the teaching of peace and explaining how education can cultivate values and attitudes which will encourage individual as well as social action to build a more peaceful world.

REPUBLIC OF KOREA

Kwak, Byong-sun. ***An analytical study of the distribution and balance of content in general education in the Republic of Korea; a paper.*** Seoul, Korean Educational Development Institute, 1986. 1 v. (various paging) mimeo.

This paper is an analytical case study within the framework of Unesco terms of reference of the distribution and balance of different aspects and types of content in general education in the Republic of Korea. The study consists of quantitative and qualitative analyses of the distribution and balance of content during the fifth/sixth and the ninth/tenth years of general education with an analysis of the reflection of the content in evaluation systems at both the primary and secondary levels.

The analysis pays particular attention to the following questions: (1) What are the main forms of curriculum balance in the Korean educational setting? (2) What methodology is followed in achieving curriculum balance in relation to values and objectives of general education? (3) How is the balance and distribution of content determined? (4) In what way do teaching methods correct or reinforce the lack of balance in curricula? (5) What is the relationship between the curricular areas reviewed and student evaluation actually practiced with reference to the principle of balance? (6) How does the system of organization and control of general education ensure the achievement of appropriate distribution and balance of curriculum content? (7) What significant problems and constraints are currently experienced in efforts to achieve more balanced curricula? and (8) What alternatives are considered to overcome those problems and constraints identified?

Within the framework of the whole curriculum approach, curriculum balance is most carefully considered in the process of curriculum development. A centralized decision-making process in the form of curriculum development is proposed as a cyclical reform by policy-making bodies of the Ministry of Education in cases when the existing curriculum seems to be outdated.

Seoul National University. College of Agriculture. Department of Agricultural Education. ***A study of the content of general education in relation to occupational training and retraining in Korea.*** Seoul, 1985. 68 p.

The purposes of this study are to determine the current status of and prospects for occupation-oriented education in secondary schools, especially in the general higher schools in the Republic of Korea; to evaluate to what extent these programmes meet the ideal of vocational programmes, and to suggest directions on how to improve the current vocation-oriented education in general high schools.

One of the major factors contributing to rapid development in South Korea is the fact that the country has developed a qualified labour force of skilled workers, technicians and engineers, most of whom are educated in successful vocational and technical education institutions. However, the number of graduates of formal industrial and technical education institutions has hardly met industrial demand throughout the recent period. Therefore, non-formal education, such as vocational training, has helped to fulfill this demand.

The increasing demand for craftsmen and technicians has intensified the importance of vocational education in general high schools attached to industries and of working students' classes and air and correspondence high schools.

Vocational classes at general high schools have been offered not only as a measure of solving the problem of limited slots available in higher education, but have also provided a basis for career development in various types of productive skills.

High schools attached to industries have proven successful for young persons working in industry and those who have missed a high school-level education. In contrast to vocational schools, this type of school operates in general schools and provides a general or vocational education for students on the job.

Working students' classes are offered to young school-age workers in industry. The classes use almost the same curricula and have the same regulations as high schools attached to industries. Legally, industries employing less than 200 employees are required to establish working students' classes in formal or semi-formal high schools.

THAILAND

Thailand. Ministry of Education. Department of Teacher Education. ***Primary school in-service teacher training in Thailand: an experiment (classroom environment study. Phase 2, report no. 2),*** Bangkok, 1987. 178 p.

This book describes a classroom environment study called **Teaching for Learning,** which is an international research project conducted in collaboration with the country members of the International Association for the Evaluation of Educational Achievement (IEA).

This longitudinal study was undertaken between 1981 and 1986. It was implemented in 3 phases: the correlational phase (2½ years), the pilot study (1 year), and the experimental study (2½ years). The correlational study aimed to identify teaching behaviour and classroom environmental variables that correlated with students' achievement. The pilot study intended to operate the teacher training programme, based on the results of the correlational study as well as other related studies. In particular, it aimed to ascertain the possibility of producing desirable changes in the teaching behaviour of participating teachers. The results of the correlational study and the pilot study were employed to design the large-scale experimental study. The purposes of the experimental study were: (a) to investigate whether a one-week intensive teacher training programme could change and/or improve teachers' teaching behaviour; (b) to find out whether, if such a training programme could produce positive changes, the teachers could maintain those desirable skills and behaviour, and to what extent; (c) to investigate whether the teacher training programme had a positive effect on student achievement.

USSR

Vladislavlev, Alexandre P. ***A conceptual framework for the development of lifelong education in the USSR.*** Paris, Unesco: International Institute for Educational Planning, 1987. 111 p. (Fundamentals of educational planning, 35).

This book presents a tentative outline for the lifelong education system at a significant juncture in the development of education in the USSR. The Soviet Parliament has adopted **basic guidelines for the reform of general and vocational education.** This programme, which lays down scientifically-based long-term prospects for the improvement of national education in the country, can be considered the corner-stone of the development of lifelong education.

In the text, the reform is decreed as the initial principle even for school education. The nine-year school is the basis for the acquisition of general secondary and vocational education through various channels selected by the pupils themselves, according to their awareness of their own capabilities and to the needs of society. Secondary general education school (grades X and XI) provides pupils with all-round secondary education as well as labour and vocational training. The task now is to integrate the basic education system with the education that must take over where school education (at any level) leaves off.

It is the out-of-school part of lifelong education that is the subject of this outline called supplementary education. The lifelong education system taking shape will consist of three interrelated subsystems: general education, special education (which together make up basic education), and supplementary education. The boundaries between the sub-systems are now clearly marked by certificates and diplomas but this is a temporary situation. Later, as a result of integration, these boundaries between basic and supplementary education will gradually disappear and the need for diplomas is expected to fade away.

SOURCES AND ADDRESSES OF DOCUMENTS REVIEWED IN THIS ISSUE

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UNESCO PRINCIPAL REGIONAL OFFICE
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Recent Publications

(Supplement to List of Publications, 1988-1989)

REGIONAL EDUCATION PROGRAMMES IN ASIA AND THE PACIFIC (REPAP)

Bulletin of the Unesco Principal Regional Office for Asia and the Pacific, No. 29 (December 1988): Educational reforms in Asia and the Pacific. US $12.00

Education in Asia and the Pacific: reviews, reports and notes, No. 25 December 1988. US $5.00

Bioliographical Documents

Accessions List, No. 72 (July-December 1988)
No. 73 (January-June 1989)

Periodicals of Asia and the Pacific, No. 72 (July-December 1988)
No. 73 (January-June 1989)

Environmental Education

Regional Seminar on the Strategy for Inclusion of Environmental Education at University Level, Yogyakarta (Indonesia), 20 June - 4 July 1987. *Report.* 1988. 76 p.

Higher Education

Unesco Principal Regional Office for Asia and the Pacific. ***Higher education and national development in four countries: India, Bangladesh, Thailand and the Philippines.*** Bangkok, 1988. 154 p. bibliography.

Never too far: a newsletter for distance education

Vol. 11, October 1988
Vol. 12, April 1989

ASIA-PACIFIC PROGRAMME OF EDUCATION FOR ALL (APPEAL)

APPEAL training materials for literacy personal (ATLP)

Vol. 1 Principles of curriculum design for literacy training
Vol. 2 Principles of resource design for literacy training

APPEAL *training materials for literacy personnel* (ATLP) (cont'd)

Vol. 5 Extra money for the family
Vol. 6 Our forests
Vol. 7 Village co-operatives
Vol. 8 Health services
Vol. 9 Specifications for additional exemplar training manual

Literacy

Illustrated literacy material: some samples. Bangkok, 1988. 49 p. illus.

ASIA AND THE PACIFIC PROGRAMME OF EDUCATIONAL INNOVATION FOR DEVELOPMENT (APEID)

General

ACEID Newsletter, No. 34, 1988
No. 35, 1989

Planning, development and implementation: Reports of Meeting and Studies:

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Occasional Papers

No. 15, January 1989. ***New development in primary education.*** Bangkok, Unesco, 1989. 51 p. US $2.00

No. 16, July 1989. ***Implementation of reforms for improving the quality and effectiveness of secondary education.*** Bangkok, Unesco, 1989. 38 p. US $1.00

No. 17, July 1989. ***Education as a process***. Bangkok, Unesco, 1989. 14 p. US $1.00

Primary Education

APEID. ***Multiple class teaching in primary schools: a methodological guide.*** Bangkok, Unesco, 1988. 69 p. US $7.50

EDUCATIONAL FACILITIES DEVELOPMENT SERVICE (EFDS)

Educational Building Digest

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